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## Urban Science Teachers

**Exploring how their views and experiences can influence decisions to remain in post or not**

Manning, Alexandra

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**Urban Science Teachers:  
Exploring how their views and  
experiences can influence decisions to  
remain in post or not**

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Thesis submitted in partial fulfilment of the requirements  
for the degree of Doctor of Philosophy

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## **Abstract**

Teacher retention and attrition remain key education policy concerns. This PhD research explores the views and experiences of five urban science teachers working in one London secondary school. During this longitudinal study, the teachers were observed on one occasion and interviewed multiple times over a period of four years, resulting in 22 interviews, totalling over 12 hours of dialogue. The interviews were transcribed and coded, providing rich qualitative data.

The research questions which provide the line of argument for the thesis were:

1. What are the day-to-day experiences of five science teachers in one urban school?
2. How do the teachers construct their role as urban science teachers and what influence do the participants' professional, situated and personal identities have on this role construction?
3. How do the participants' experiences and role construction influence their career decisions and, in part, affect why some of them remain in post while others do not?

Two analytical approaches were used: firstly, teacher stories focusing on life histories and motivation were developed using qualitative data; secondly, three identity dimensions (professional, situated and personal identities) provided a frame to further to understand why the teachers made their various career decisions.

Only two of the participants remained in post at the end of the data collection period, and I argue that some teachers are more resilient than others. The findings suggest that each of the identity dimensions plays a part in generating (or weakening) this resilience: some teachers are able to recognise the factors contributing to a situation and then take appropriate action to address challenging scenarios, while others appear to be unable to either recognise or act, or both, in the same way. A further significant finding is that pragmatic matters matter: not all teachers had the luxury of choice available to them. In fact, I argue that, for some, staying in post might ultimately be a 'non-choice'.

Based on these findings, I propose recommendations for teacher preparation and in-post support that might improve the current poor teacher retention rates in urban science teaching.

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## Abbreviations

AO	Assessment only
ASE	Association of Science Education
BERA	British Educational Research Association
BSF	Building Schools for the Future
BT	Beginning teacher
BTEC	Business and Technician Education Council
DfE	Department for Education
DfES	Department for Education and Skills
EISER	Enactment and Impact of Science Education Reform
FMSS	Five-minute speech sample
FSM	Free school meals
HEI	Higher education institution
HoD	Head of department
HoS	Head of science
INSET	In-service training
IOP	Institute of Physics
ITE	Initial Teacher Education
LGBT	Lesbian, gay, bisexual, and transgender
NfER	National Foundation for Educational Research
NQT	Newly qualified teacher
NUT	National Union of Teachers
PGCE	Postgraduate Certificate in Education
QTS	Qualified Teacher Status
SASS	School and Staffing Survey
SEAL	Social and Emotional Aspect of Learning
SKE	Subject Knowledge Enhancement
SLT	Senior leadership team
TDA	Training and Development Agency for Schools
VITAE	Variations in Teachers' Work, Lives and Effectiveness

# **1. Introduction**

## **1.1 Preface to the Research**

A common figure often cited within discussions of teacher recruitment and retention is that half of teachers leave the profession within the first five years. Indeed, Rinke (2014) titles her book *‘Why Half of Teachers Leave the Classroom’*. This commonly quoted statistic gained momentum once mentioned by Ingersoll in 2003, reporting on the US context, drawing on the School and Staffing Survey (SASS) data. At the same time, a similar proportion of teachers were found to be leaving the profession in the UK (House of Commons Education and Skills Committee 2004).

It has been widely accepted for some time that there is a recruitment and retention ‘crisis’ in teaching in the UK (House of Commons Education and Skills Committee 2004) and this is often education headline news. The percentage of teachers leaving the classroom has remained fairly constant over time, at about 40%–50% leaving within five years of entering the profession (DfE 2010b, 2012). The situation is particularly acute in science education and in urban settings, as noted by Dolton and van der Klaauw (1995). While there is quantitative data on the numbers of science teachers being recruited and retained, there is very little qualitative data about the stories and reasons behind these figures.

I now recognise myself as one of those very teachers. I left the classroom over a decade ago, albeit six years after qualifying as a physics teacher. As a Postgraduate Certificate in Education (PGCE) tutor, I also see many of our trainees similarly failing to remain in the career that we supported them in preparation for. In this PhD study, I attempt to understand what it means to be an urban science teacher and why and how some survive and/or thrive, while others do not.

All schools are different; however, urban schools present a distinct environment, and working in these science departments provides challenging experiences for any teacher, let alone a recently qualified one. In this study I investigate the lived experiences of five science teachers in one urban school, exploring and aiming to understand their stories. I consider how their views and experiences shape their teacher identities and impact on the career choices the teachers make. Specifically, I explore the role of three identity dimensions; professional, situated and personal spheres, considering how ebbs and flows of dominance and resulting dissonance between these dimensions can impact on individual teachers and whether they remain or leave their teaching position.

## 1.2 Motivations for, and Contribution of, the Research

There are many reasons why my research is significant and I have several personal and professional motivations for conducting it. Firstly, on a very personal level, I have come to wonder why I left the classroom. I consider myself very committed to urban science teaching and yet I am no longer employed as a schoolteacher. While my current lecturing position arose as a result of circumstantial opportunities, I do continue to reflect on why I made the decisions I did.

Secondly, I have many friends and colleagues who I trained with, or worked with, who have also moved away from classroom teaching. Many of their stories, like mine, tell of situations arising which slowly moved them in other directions, out of the classroom.

Thirdly, as mentioned above, many of the students who I support in training also make this transition and do not remain in science teaching. I wanted to better understand how I might prepare students to remain in post and, indeed, consider whether my selection process might also be usefully improved.

The above represents personal and professional reasons why I am motivated to undertake this research. However, there are also academic and UK government policy reasons why I believe the study is important, the ‘so what’ aspect that justifies the work.

Before I introduce these policy reasons, I should first establish what I mean by ‘policy’. A dictionary definition of policy is ‘a course or principle of action adopted or proposed by an organisation or individual’ (OED). Policies are usually formally embedded into a written document. Using this definition, the proposing organisation, and policy owner in question might be the government, a school or even a department. Policy is a key theme throughout this thesis, and I refer accordingly to government policies, school policies and science department policies.

A way to conceive of the policy structure might be to think of a top-down system, where government policy is at the top of the pyramid, school policy is the level below and the department policy at the base. See Figure 1.1 below:

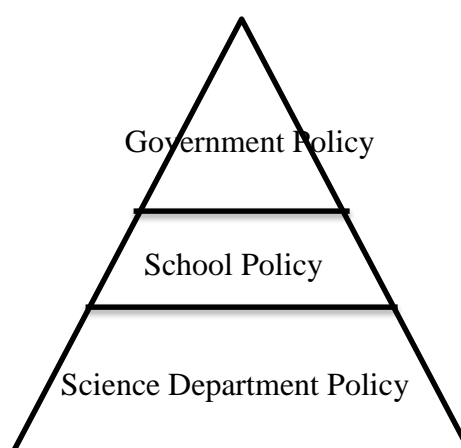


Figure 1.1: Policy structures and systems.

In this top-down structure, the government proposes the policy, which is cascaded through adopters (and adaptors, see below) of the policy. As different ‘layers’ of the policy pyramid respond to government policy, it becomes adapted and personalised within each layer and therefore transitions from being solely a government policy to a school policy, or from a school to a department policy. Much of Stephen Ball’s work focuses on these policy processes (1990, 1997, 2012).

Further to Ball’s notion of policy development, described briefly here, I also want to acknowledge the concept of policy enactment (Ball 2012, Braun et al. 2010). ‘Enactment’ refers to an understanding that policies are interpreted and ‘translated’ by diverse policy actors in the school environment, rather than simply implemented (Braun et al. 2010:547). Enactment processes suggest the cascade of policies is not a simple mechanism. Policy intentions are not always realised exactly as they were originally intended but can be transformed, ignored, resisted or reproduced, with a range of both intended and unintended outcomes.

Now, with a shared understanding of ‘policy’, I return to the policy and academic reasons why my research is important. Firstly, my research has the potential to inform policy at each layer of the policy pyramid to enable a better understanding of retention/attrition in urban science teaching. The retention of urban science teachers is worthy of study for two main reasons. The government in England recognises the need to retain a quality workforce in our schools, as has been highlighted by the coalition government in *The Importance of Teaching: The Schools White Paper 2010* of November 2010 (DfE 2010a) and more recently in the *Educational Excellence Everywhere* White Paper of March 2016 (DfE 2016). The issue is also of concern in academic literature (McIntyre 2010a). However, while the education policy context for this research is UK-based, much of the

literature on urban science education is not, being generated predominantly in the US (Rinke 2011).

Hence, my research provides an important contribution to an understanding of what it is to be an urban science teacher in the UK, specifically in London. I develop insights into why a group of teachers made the career choices they did and reflect on implications of these choices for urban science departments. Additionally, based on the findings, I make a number of suggestions about how to best prepare teachers for urban schools and how to support teachers in post.

Moreover, I will argue that retention/attrition of urban science teachers, in particular, is important for a number of reasons at this time in the UK. For instance, there is a shortage of science teachers and particularly those able to teach physical science. There are also concerns over the numbers of students choosing to study the physical sciences beyond the age of compulsory schooling. Secondary teachers are subject specialists, yet are required to qualify in, and usually teach, all three sciences up to GCSE, or Physics with Mathematics.

In short, this thesis offers new and original findings that highlight and document issues important to science teacher retention and attrition. High turnover contributes to a number of issues within schools, such as staff rapport and relationship between pupils and teachers. It is undeniably of concern across government, school and departmental policy levels, as well as having implications for the cost-effectiveness of teacher preparation. Another area of concern is the future of science education and of science itself. There are, therefore, a number of audiences for this research; political policy makers/politicians, school leadership, schoolteachers and initial teacher educators. Hence, I posit that my study is important for personal, professional, policy and academic reasons.

### **1.3 Research Questions**

My study addresses the following research questions:

1. What are the day-to-day experiences of five science teachers in one urban school?
2. How do the teachers construct their role as urban science teachers and what influence do the participants' professional, situated and personal identities have on this role construction?

3. How do the participants' experiences and role construction influence their career decisions and, in part, affect why some of them remain in post while others do not?

#### 1.4 Structure of This Thesis

Below I outline the format of this thesis. Following this short introduction, there are two literature chapters. **Chapter 2** is titled 'Urban Science Teaching' and sets the research scene. In this chapter, I discuss the literature concerning science teachers and teaching, then urban teachers and teaching; then, combining the two, I consider what we know about urban science teachers and teaching. I will argue that being an urban science teacher in England is both challenging and poorly understood within the literature. The chapter will highlight issues relating to recruitment and retention, enabling the focus of the study on teachers' career decisions. Subsequent to the literature review, relevant education policy in the area will be discussed. I argue that government policy erroneously prioritises recruitment over retention and that some new routes into teaching actively promote teaching as a short-term option, as opposed to a career-long vocation, where applicants are recruited to 'teach first' before moving on their next career.

The second literature chapter, **Chapter 3**, is titled 'Teacher Identities'. In this chapter, I move from the generic notion of urban science teachers to focus on individual teachers and their associated identities. I discuss the literature on identity formation to frame an understanding of how urban science teachers construct and understand their role, which in turn can offer an appreciation of why some teachers remain in post while others do not. I argue that how one's identity is formed, how teachers see themselves and how others see them, contributes to coherence and/or conflict in the development of a teacher identity. I suggest that the amount of coherence or conflict for each individual can shape their career decisions.

I explore themes of coherence verses conflict further by introducing the VITAE project: 'Variations in Teachers' Work, Lives and Effectiveness' (Day et al. 2006a). From the VITAE research, I draw particularly on their identity focus. I use the research teams' dimensions of identity – personal, situated and professional identities – and the relative balance between them to discuss how stable or unstable identities play a part in teacher retention/attrition.



Subsequent to setting the research context, **Chapter 4** discusses the research methodology, methods and participants. In order to address the research questions, I adopted a constructivist epistemology, and take an interpretivist stance. My approach is ethnographically inspired. The research is set in one case study school, focusing on five participant teachers. Teachers were observed for one full day and interviewed over a longitudinal period of four years; this included five rounds of interviews – 22 interviews in total.

The longitudinal nature of the research both gave rise to rich data and also established rich rapports. Within the chapter, I discuss the ethical implications of these developed relationships and my reflexive awareness of issues that this raises. The final section of the chapter presents the five participant teachers' stories. These five stories cover both biographical details and the teacher's 'life histories' (Goodson 1991). I argue that the stories are a lens which not only encapsulate who the teachers are and their journey during that data collection period, but also offer a tool for understanding and analysing the teacher data.

The VITAE project's professional, situated and personal identity dimensions (Day et al. 2006b) provide an analytical and structural framework for the findings that are discussed in **Chapters 5–7**.

**Chapter 5** focuses on the professional identity findings, focusing on areas of government policy, curriculum and initial teacher preparation. The professional identity line of argument suggests that urban science teachers can have contested identities, and that science and urban identities can present one such contestation. I also suggest that various professional aspects can inflate the professional dimension, and result in dominance and affect identity stability. This, in turn, can contribute to teachers' decisions to leave their teaching posts.

**Chapter 6** focuses on the data pertaining to the situated identity dimension. Within school, factors discussed by the teachers included: pupils, leadership/management, collegiality and physical environment. The first key finding was that teachers' views regarding urban pupils are, broadly speaking, very positive and therefore a retention factor. The second was that teachers' shared views and experiences of working as an urban science teacher were overwhelmingly negative. These negative views concentrated on a lack of support and not feeling valued, leading in many ways to what I term a toxic

environment. I argue that such situations cause identity imbalance, to which one's personal identity needs to respond to redress the balance, and that the success, or not, of this redressing may result in teacher retention or attrition.

In the third data chapter, **Chapter 7**, I discuss the personal identity dimensions that contributed to the reasons why three of the five teachers did not remain in post and only two of the teachers were able to be resilient and remain in post. I argue that remaining in post is associated with one's expectations and motivations, not only when entering the profession, but also throughout a teacher's career. I introduce the notion of pragmatism, and suggest that this is far more significant than we might expect. The teachers were, in many ways, retained in post due to fundamental logistical factors. However, some teachers were able to assess their options and choose to leave, while others were not in such a privileged position. I argue that these teachers experience a 'non-choice' and must therefore become resilient in order to make remaining in post work for them.

The three identity dimensions are recombined in the final chapter, **Chapter 8**, by returning to my research questions. The discussion is closely navigated by Rinke's (2014) recent publication, where she follows a cohort of eight beginning science teachers in one urban US district for seven years. With several methodological commonalities, it makes sense to compare our findings. Rinke labels her teachers 'stayers, shifters and leavers', and discusses the themes associated with these labels. However, as I highlight, her 'stayer' themes do not discuss the pragmatic notions I found, nor do they suggest the reality of a 'non-choice'. The final chapter closes by considering the implications of the study for government policy and school practices, recognises the limitations of this research and suggests next research steps.

## **2. Urban Science Teaching: A Literature Review**

### **2.1 Introduction**

This first literature chapter sets the research scene: in order to understand urban science teachers and why they stay or leave the workforce, we must first locate them within the framework of literature on science teachers and urban teachers. The research focus of this thesis is science teachers in urban schools; therefore, in this chapter, I shall review research literature on science teachers, urban teachers and then urban science teachers. Within this chapter, I will also consider some key national policies pertaining to these three groups of teachers, and I will argue that being an urban science teacher in England is both challenging and poorly understood within the literature.

The backdrop to the science teacher recruitment and retention scene will be set using a range of quantitative data including statistics relating to the teacher workforce, recruitment and retention. Sources for such data will be government publications, the Office of National Statistics, the Gatsby Foundation and a number of other academic research study findings. I will argue that these quantitative studies give a valuable insight into the science teacher workforce; however, they do not provide enough qualitative data to explain the stories behind the quantitative data, stories about teachers' motivations and expectations on entering the profession, and the teachers' lived experiences of working as an urban science teacher.

In order to describe urban teaching, a working understanding and definition of 'urban' will be established, focusing on the characteristics that define an urban setting beyond mere geographical location. Such characteristics will include a diverse range of pupils in terms of ethnicity, ability/need, language, class, behaviour and mobility. Conceptualising the urban will draw on work from Maguire et al. (2006) to assert that urban teaching is enshrouded with a number of challenges. The challenges of urban teaching will resonate with the demands of science teaching.

The final focus of this chapter will draw out what we already know about urban science teachers, explaining that much of our knowledge is drawn from a US setting (Rinke 2011) and considering the extent to which it can be mapped to the UK setting. The three-tiered research focus, namely science teachers, urban teachers and urban science teachers, provides both the argument and structure for this chapter.

In this thesis I conceptualise science teachers as located within a nexus of interconnected issues; the experience of recruitment and retention is influenced by issues pertaining to both urban schools and science teaching. This produces a set of issues specific to urban science teachers. The educational system in the UK presents issues that impact on all teachers, such as a National Curriculum and publication of league tables. Within that, there are issues which impact particularly on science teachers, other issues of concern to urban teachers, and consequently there is some overlap of urban science teacher issues; these research areas are represented by the Venn diagram below.

As Ball (2012) suggests, education is a highly politicised entity; therefore, a line of

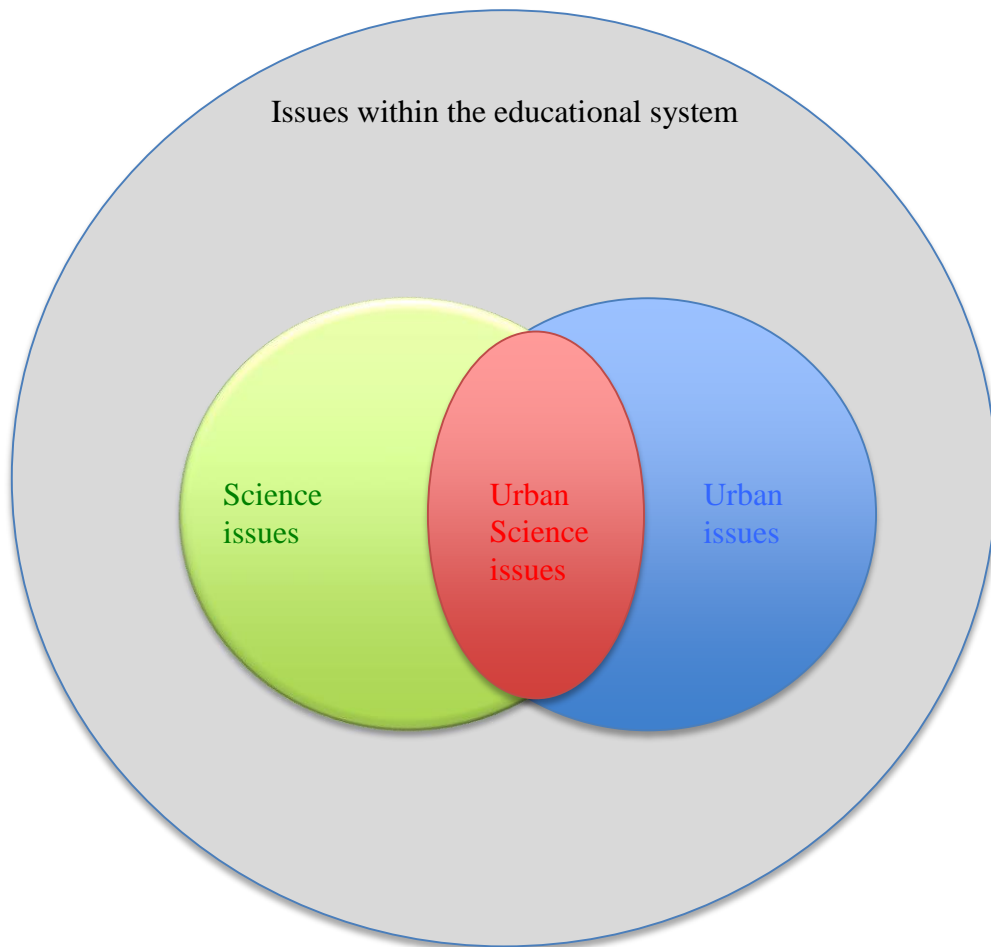


Figure 2.1: Argument and organising device.

argument cannot be developed solely within the academic literature. It is therefore essential that educational policy is also considered within this review chapter. UK government policies and initiatives play a central role in influencing the teaching landscape; policies on teacher recruitment and school leadership shape the teaching context in question. I will consider specific policies and initiatives associated with science

teaching, the urban context urban science teaching/education and those pertaining to teacher education/training.

One of the complexities involved with completing a longitudinal study is that the policy world in which my research is located is constantly changing: governments change, and with them, the dominant political standpoint and rationale which shapes educational policies. I started this PhD under a Labour government, continued the research under a Conservative/Liberal Democrat coalition and submitted under a Conservative majority government. While this policy flux is a factor in my findings, it is also a challenge here to construct a narrative on the role of policy and the changing policy landscape. When I first started my research in 2008 much of the national policy focus was on pupil outcomes, and teachers seemed to occupy a back seat in policy positioning. However, during my PhD's lifetime there has been a recognisable shift in the landscape. Teacher education/training has moved up the political agenda.

## **2.2 Science Teachers in English Schools: A Distinctive Breed**

Defining who science teachers are is not easy, as is exemplified by the Royal Society's (2007) attempt to map the science teaching workforce. Despite an appendix consisting of a 27-page list of the quantitative data sources, the recurring theme of the report, and first conclusion of the executive summary, was the absence of thorough and coherent information across the sector. The immediate consequence of this is that with over 6,000 secondary schools in England and the range of school types in existence – including academies, comprehensive, independent and free schools – it is difficult to know exactly how many science teachers there are in these schools.

For the purpose of this study, I define 'science teachers' as those who teach secondary school science. Most schools in England teach lower school science (students aged 11–14) as a combined subject, as, in fact, many schools also teach science, as opposed to physics, chemistry and biology, in the upper school too (students aged 14–16). Consequently, many science teachers working in the state system teach biology, chemistry and physics (Smart 2006); so, despite being single science specialists through their training to enter the profession, in practice teachers often teach all three sciences. In 2004/5, the Department for Education and Skills (DfES) commissioned the National Foundation for Educational Research (NFER) to conduct research in one-quarter of all maintained secondary schools. The research resulted in Research Report RR708 authored

by Moor et al. (2006). A sample of 754 science department heads and 2,756 science teachers were surveyed and the data provides a rich quantitative background for my research. The table below shows the breakdown of science specialisms of science teachers in the study sample. The data is compiled from 630 department heads who completed questionnaires, which represents one in five schools in England.

Table 2.1: Science department workforce

<i>Members of science departments</i>	
Teachers with a specialism in biology	44 per cent
Teachers with a specialism in chemistry	25 per cent
Teachers with a specialism in physics	19 per cent
Teachers with a specialism in other science	5 per cent
Teachers with a non-science-related specialism	2 per cent
<i>Members of other departments</i>	
Teachers who mainly teach other subjects teaching science	6 per cent

(Moor et al. 2006:106)

As the secondary school science curriculum comprises, broadly speaking, one-third biology, one-third chemistry and one-third physics, then the data in the table above explains the demand for teachers to teach outside their specialism, as the composition of the workforce is not consistent with an equal three-way split. In other words, there are more biology teachers than chemistry teachers and more chemistry teachers than physics teachers. There are more biology teachers than biology content to teach and, conversely and more problematically, there are not enough physics teachers to teach the physics content. The Department for Education used the teacher workforce data to recognise that physics and chemistry were among the subjects more frequently taught by teachers without post-A-level experience and biology was among the least frequent (DfE 2010b:97), as is shown in the graphs below.

### Hours Taught By Teachers with Post-A level Qual's Within-Subject

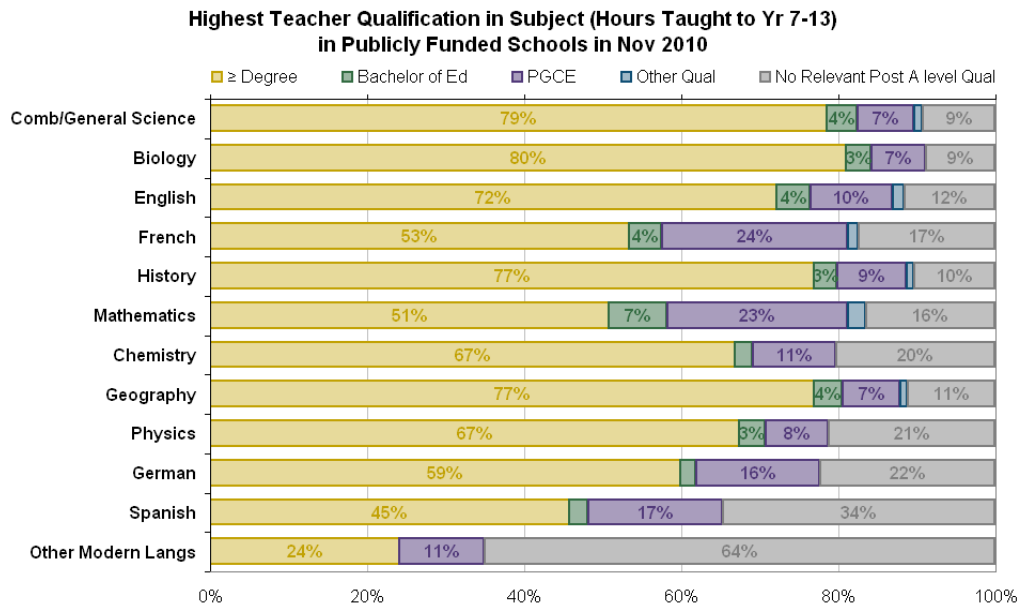


Figure 2.2: Teaching hours of subject teachers (DfE 2010b:106).

Figure 2.2 shows how much of teachers' time is spent teaching within subject. It can be seen that

Teachers of modern foreign languages or maths were the least likely to spend more than one fifth of their timetable teaching other subjects (less than one fifth did so), while teachers of separate (triple science) biology, chemistry or physics were most likely (more than four fifths did so). Between these extremes, teaching outside of subject increased in frequency from general (combined) science to geography, to history to ancient languages.

(DfE 2010b:107)

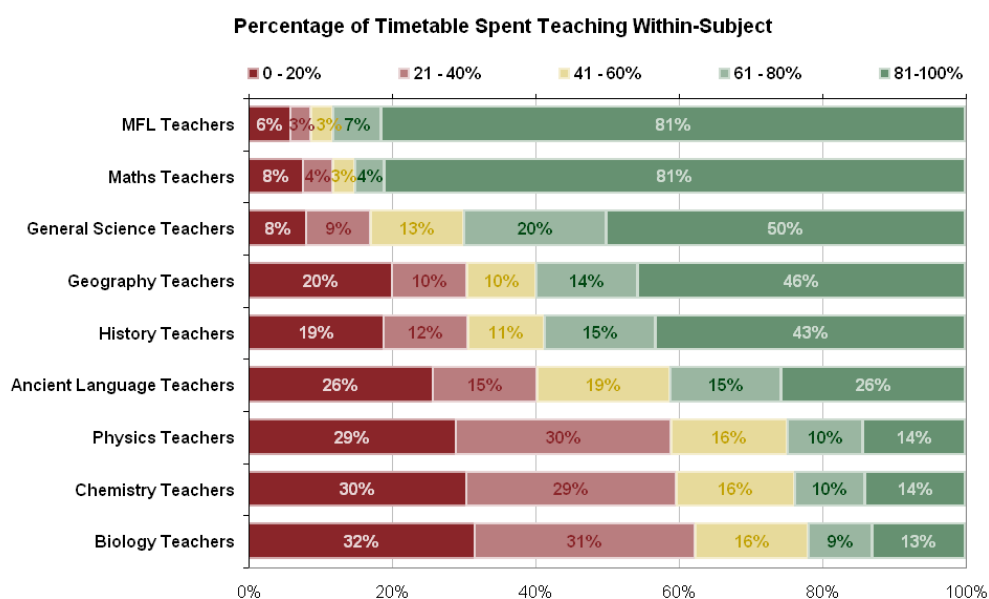
**Timetabling of Teaching Within-Subject by Subject Taught**

Figure 2.3: Teaching hours of subject teachers (DfE 2010b:107).

However, Figure 2.3 does not show the distinction mentioned above that biologists are more likely than physicists to teach outside of their science specialism, due to the reduced number of qualified physics teachers in the state sector. The assumption of teaching hours difference is supported by the fact that ‘the largest total number of hours taught was for combined or general science, biology, chemistry and physics, at 551 thousand hours taught by 33,000 combined science teachers, 8,000 biology teachers, 7,000 chemistry teachers and 6,000 physics teachers.’<sup>1</sup> (DfE 2010b:99).

This diversity of data does not necessarily mean there are inconsistencies in workforce data; it does, however, show the complexity of the situation. Science is both a single subject and made up of separate specialisms. A small minority of science teachers may have ‘science’-titled degrees, or science BEds; however, the majority will have specialised in their undergraduate science programmes. Therefore, data about science teachers, as opposed to physics, chemistry and biology teachers, can further complicate the picture. Additionally, in 2010 Initial Teacher Education (ITE) allocations changed; places were awarded for separate sciences, rather than the previous model of science places. To complicate the matter further, applicants may change specialism at training entry point; for example, as a biologist they can complete a Subject Knowledge Enhancement (SKE) course in physics in order to complete a physics PGCE. This

<sup>1</sup> Teacher headcounts overlap significantly between different science subjects and between different languages, and should not be summed to provide totals for these subject areas.



qualifies the individual as a physics teacher but ultimately they may apply for a biology post and identify as a biology teacher.

The myriad issues emerging when trying to identify and label science teachers by their specialism and the content they teach exemplifies the point that we do not have a definitive picture of the typical science teacher. Since subject specialism is not the clearest demarcation, comparing teacher salaries might provide a more illuminating picture. Despite the common pay scale, within the state sector, variation can also be found between the average pay for different subjects. Figure 2.4 below shows the mean salaries against the mean age of teachers for that subject:

In particular, teachers of maths, general science or design and technology had lower than typical mean salaries, as did teachers of English, Spanish or art and design to a lesser degree. Higher than typical mean salaries were found for teachers of geography, and to a lesser extent, teachers of physics, biology, history and German.

(DfE 2010b:112)

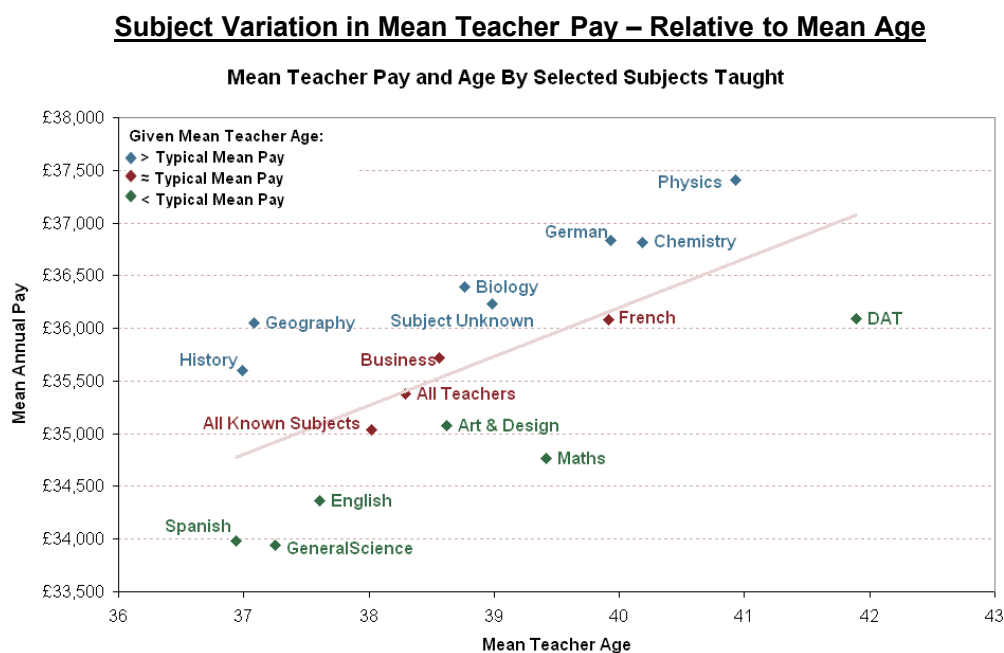


Figure 2.4: Subject teacher pay relative to age (DfE 2010b:112).

The first point to note is that a difference in average salaries does exist between subjects. Additionally, we again see the tension between identifying teachers as a general science teacher and a subject specialist science teacher, as discussed above. There are now

recruitment UK government bursaries and scholarships for those wishing to enter the profession, with physical scientists receiving a maximum of £25,000 for training year 15/16, increasing to £30,000 for 16/17, while biologists receive a maximum of £15,000 for 15/16, increasing to £25,000 for 16/17 (figures taken from DfE website). It would seem that a financial recruitment strategy is carried over into school, with pay differences continuing. Furthermore, we can see from Figure 2.4 that specialist scientists were found to be more mature in years and in receipt of a higher mean annual pay (DfE 2010b). Science teachers' pay and recruitment was also the focus of a Gatsby Charitable Foundation report (Howson and Sprigade 2006). They too suggest that teachers' pay may be considered in relation to the subject they teach; that teachers of a subject whose teaching numbers are low, e.g. physics, would be paid more than those who teach subjects with less of a shortage, e.g. biology.

It is a multilayered task to unpack the reasons behind these pay figures; it could be argued that the difference suggests that some teachers are more highly valued than others, and that some science teachers are more desirable than others. This echoes the *Animal Farm* sentiment: 'All animals are equal, but some animals are more equal than others'. The pay difference might also affect how science teachers view one another; seeing themselves as more or less esteemed than other colleagues can result in resentment and may affect the cohesion of a team within the science department.

We might also consider gender as a characteristic of science teachers; Moor et al. (2006) found that 55% of 2,749 science teachers were female, while 62% of the heads of departments were male (p.132). Science teachers are slightly more than likely to be female, yet more than likely to be managed to be a male head of department.

There is also data on science teachers' age and, more importantly, level of experience (Moor et al. 2006). A wide age range was identified, 'one-quarter of teachers were aged under 30 ... almost half of the teachers responding to the survey were aged over 40 and almost one-quarter were over 50' (p.133). Within this spectrum, there were more biologists at the lower end and more physicists at the upper end.

One-third of teachers with a degree in biology were under the age of 30. For teachers with a degree in chemistry, the figure was closer to one-quarter, and for physics, it is nearer to one-fifth. One-quarter of teachers with a degree in physics were over the age of 50.

(ibid:133)

Also, the range of ages is not indicative of a range of experience; being more mature in age did not necessarily correspond with a longer time in the profession. There was not an equally wide spread of experience within the science teacher workforce.

... almost two-fifths of science teachers had been teaching and/or teaching sciences for less than five years at the time of the survey, and almost three-fifths had been teaching sciences for less than ten years, suggesting that as a whole, the sample was not made up of long-serving experienced science teachers.

(ibid:134)

Together, these data do not paint a clear picture of the ‘average’ or ‘typical’ secondary school science teacher. They come from varying science specialist backgrounds but may teach outside of their specialism, especially biologists. They may be differentially financially rewarded according to their specialism. While science teachers represent a reasonably wide age range of 22–65 (Moor et al. 2006:133), they may also be relatively inexperienced within the teaching profession. My hypothesis is, therefore, that the lived experiences of a science teacher can be challenging and demanding, which may impact on retention. I now turn to the second aspect of the research, urban teachers, to explore the issues that this dimension contributes to their experiences as urban science teachers.

### **2.3 Urban Teachers and Urban Teaching**

I suggest that identifying urban teachers will prove as elusive as identifying a ‘typical science teacher’, if we do not first define what we mean by ‘urban schools’, as urban schools are not homogenous. For example, in Ghana, urban schools are the best resourced schools and recruit the best teachers (Somuah and Mensah 2013), while in the US, urban schools are characterised by notions of deficit and poor resourcing, according to Darling-Hammond’s (2006) description of the most unequal school system. Milner (2012) also discussed the need to clarify the terminology terrain, and described how confusion can

arise when a shared understanding of terms is not adopted. Like much of the urban literature, Milner's work comes from the US context. Milner offered three main categories of urban schools: 'urban intensive', 'urban emergent' and 'urban characteristic'. While these descriptors are used to describe US schools, they could equally be applied to schools in England and hence I draw upon them here.

Table 2.2: An evolving typology of urban education

Category	Definition
Urban intensive	These schools are those that are concentrated in large, metropolitan cities across the US, <sup>2</sup> such as New York, Chicago, Los Angeles, and Atlanta.
Urban emergent	These schools are those that are typically located in large cities but not those as large as the major cities. They typically have some of the same characteristics and sometimes challenges as urban intensive schools and districts in terms of resources, qualification of teachers, and academic development of students. <sup>3</sup> Examples of such cities are Nashville, Tennessee; Austin, Texas; Columbus, Ohio; and Charlotte, North Carolina.
Urban characteristic	These schools are those that are not located in big cities but may be beginning to experience increases in challenges that are sometimes associated with urban contexts, such as an increase in English language learners in a community. These schools may be located in what might be considered rural or even suburban areas.

(Milner 2012:560)

What I see as the strength of Milner's typologies is the attempt to categorise the concept of urban traits; that certain schools possess characteristics that contribute to their claim of being urban. In essence, the typologies appear as a sliding scale of 'urbanness', from experiencing challenge and being located in an urban setting through to experiencing the challenge but not being located in an urban site.

I should also mention, having compared New York to London within the typologies above, that schools in London are in fact doing very well (Blanden et al. 2015): 'London is an educational success story, with especially good schooling results for more disadvantaged pupils' (p.5). This 'London effect' again makes defining the urban far from easy.

<sup>2</sup> While Milner cites American cities, in the UK/England I would cite large cities such as London and Manchester.

<sup>3</sup> US urban schools suffer from lack of resources, less well qualified teachers and poor pupil performance.

Milner's typologies could be argued as adopting a deficit model, as the urban is characterised by a lack of resources, lack of space, etc. While there are indeed challenges faced by many urban schools, there are also positive aspects to urban education that should also be acknowledged. Miller et al. (2011) stand out in adopting a more optimistic approach to urban contexts, mentioning 'those [features] that are often overlooked (cultural richness, resilience, perseverance)' (p.1079). In order to best meet the needs of my research below, I draw on the UK work of Maguire et al. (2006). Their definition of 'urban' is located in English schools and recognises both the demands and privileges of urban schools.

Various dictionary entries define 'urban' similarly to Milner's definition of 'urban intensive' – as related to the city context and areas with high population densities. The *Oxford English Dictionary* (2014) defines the word 'urban' as 'relating to, situated or occurring in, or characteristic of, a town or city'. Under this definition, an urban school would be one placed within a particular geographic location, in the city of London for example. There are a huge number of very different schools in London: state and private, mixed and co-educational, faith and non-faith schools, to name but a few. All these different schools have London postcodes but they are not all 'urban' schools; for instance, they do not all have diversity of pupil intake. Additionally, some schools can 'buck the trends' (Mortimore 1991), such as exhibiting poor attendance and high underachievement. Being situated in an urban context does not necessarily equate to having insurmountable difficulties, as was evidenced above when describing the 'London effect'.

The majority of the urban literature is from the US, where urban education is of particular concern: 'International assessments reveal that America's schools are among the most unequal in the industrialised world in terms of spending, curriculum offerings and outcomes' (Darling-Hammond 2006:13). It is argued that in urban schools, teachers are less well qualified and there is a less intellectually challenging curriculum for students of colour and low income. Darling-Hammond believes that government policy should be developed to ensure high-quality teacher training, 'by insisting on quality preparation, underwriting the costs of training for candidates, and ensuring an adequate supply of teachers for all communities by providing adequate salaries and working conditions' (p.19); therefore, better preparing teachers to work in urban settings, so all children may have 'the right to learn' (p.22). The work of Darling-Hammond reveals that US urban schools are different from this thesis's definition of an urban school. The academic

literature from the US locates urban schools at a more extreme position on the spectrum of the challenges that urban schools face, as is supported by Darling-Hammond's reference to 'most unequal schools' (2006:13). I contend that on each urban indicator – poverty, absenteeism, pupil achievement/outcome, quality of teaching staff – US urban schools experience them more intensely than English urban schools.

'Urban schools' are more than just those situated in a specific geographical location. Maguire et al. (2006) categorise the meaning of 'urban' that will be used in this thesis: schools 'that reflect the higher levels of social deprivation, poverty and disadvantage' (p.17). They acknowledge that the 1991 Inspectorate recognised that urban schools are distinctive in their higher than average proportion of disadvantaged pupils who present an extra challenge. Specifically, these demands include: 'multicultural education, language development, including English as an additional language; class management, behavioural problems and absenteeism; low expectations and underachievement' (p.15); these demands resonate with the urban indicators acknowledged in the previous paragraph.

Maguire et al. (2006) surveyed 60 representative urban primary schools. The schools were considered 'representative' as they were situated in metropolitan areas. Local advisers, higher education institution tutors and head teachers also identified schools to approach.<sup>4</sup> They explored, in detail, specific characteristics of the urban school, including a high proportion of pupils living in poverty and those claiming free school meals, minority ethnic children and those for whom English is an additional language, school exclusions and attendance, refugees and asylum seekers, and finally teacher recruitment, retention and the use of supply teachers.

Maguire et al.'s (2006) participant teachers also identified the rewards of urban teaching such as focusing on the children, seeing them grow, develop and make progress. They also felt they were in some way 'redressing the imbalance' (p.40) of inequalities. Satisfaction was also expressed as a response to the variety that existed within schools: the ethnic, cultural and social mix.

In defining what it is to be an urban teacher in England, the rewards and challenges are both apparent. Teaching in urban schools in England is demanding, as is recognised by

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<sup>4</sup> While they write about primary schools, I believe the characteristics discussed are common to the urban secondary school where I carried out my study.

Maguire et al. (2006). My hypothesis is that if these challenges are compounded with those discussed earlier in relation to science teachers, urban science teachers are then faced with a particularly difficult role. Smithers and Robinson (2005) found teacher turnover to be higher in London schools, and physical science teachers are more likely to leave the profession than those teaching other subjects. It follows, then, that physical science and science teachers in London are worthy of study in their capacity as urban science teachers and may face particular retention issues.

#### **2.4 Urban Science Teachers and Urban Science Teaching**

In the preceding sections, I have attempted to use the literature to present an understanding of what it means to be to a science teacher and an urban teacher in England, and the issues associated with each dimension. I now wish to consider further the compound research on urban science teachers and teaching. ‘Urban science education’ is a more familiar phrase than ‘urban science teachers’ in the literature. Much of this literature focuses on pupil learning and engagement and is set in the US (Tobin (2000) and Calabrese Barton (2001, 2004)). The literature is quite niche, focusing in the main on small-scale case study research with a small number of participant teachers in the US. I too will adopt a case study approach and move the lens to look at urban science teachers in London, England, to help fill this gap in the literature.

While the participants in the studies discussed here are urban science teachers, my interpretation is that, often, the findings are more focused on the urban element than the science element of the urban science teaching experience. Hewson et al. (2001) conclude that their findings, in two case study urban schools, did not relate specifically to science: ‘a combination of factors, perhaps unique to urban schools, consumed the attention of science teachers leaving them with little time or energy to teach science’ (p.1142), suggesting that issues concerning the ‘urban’ can obscure those pertaining to the science.

Not only may the urban obscure the science, but urban science may not be a term with which many teachers identify. While we, as researchers, use the term ‘urban science teachers’, it is not a term that those teachers use of themselves or, indeed, recognise themselves as. Disconnect between identification or labelling is comparable to King et al.’s (2001) findings of an overwhelming disparity between what teachers perceived they were doing and what was observed by researchers, and indicates the need for research into urban science teachers. For example, one teacher felt she was an advocate of ‘hands-



on' enquiry, while observations suggested 'a lesson more consistent with direct instruction practices' (ibid:104). But, I hope that my approach of observing teachers at the start of my data collection period and interviewing them repeatedly over time may increase the consistency of data gathered.

We should acknowledge that labelling a school as 'urban' does not mean it will be unsuccessful. Hewson et al. (2001) compared two case study urban schools in Ohio, 'Urban Middle School' and 'Webster Middle School', and found the latter to be distinctively more successful. Hewson et al. ascribed the success of 'Webster' to the leadership style, teachers' commitment and sense of community within the workforce. While the two schools were similar in many ways, 'Webster' has significantly fewer pupils qualifying for free or reduced price lunch (56% compared with 85%) – although Hewson et al. do not draw this out as one of the influences of success. 'Urban Middle School' teachers were found to have low expectations of their pupils, low staff morale and high absenteeism. There were concerns over teacher retention and parental involvement. 'Webster', conversely, was considered to have strong and stable leadership, motivated staff and involved parents. Note again that science does not feature in the study findings.

In another study, staff motivation was interlinked with notions of professionalism and accountability. Four US science teachers believed that new reforms abused their professionalism. They felt that new science tests not did assess pupil understanding accurately nor did they encourage accountability of teachers (Settlage and Meadows 2002). Reforms can result in unintended negative implications; the researchers argue the reforms are creating curriculum chaos, 'contributing to a disjointed science curriculum' (p.118), where teachers teach to the exam rather than the coherent whole of the subject. Settlage and Meadows explore the idea that in teaching to the test, teachers do not go beyond it and therefore do a disservice to students, contributing to the idea that reforms are driving a wedge between students and teachers. Teachers may have 'weakened emotional bonds' with their students; conversely, students may perceive teachers 'simply as cogs in large educational accountability machines' (ibid:119). Finally, it is suggested that teachers have developed a triage mentality, of attending to those students who most urgently need focusing on. If certain students will achieve the desired pass mark without teacher intervention, then teacher time can be focused on those for whom intervention will have an impact. Therefore, the more able will not be stretched and those who are deemed to be not able to meet the required pass mark will be neglected. In other words,

existing research evidence indicates that the urban teacher works in schools which serve pupils with a wide variety of needs and can present a unique set of challenges.

If teachers are feeling professionally abused and failing to develop relationships with pupils, it follows that this will do little for morale and will not contribute to job satisfaction and, I suggest, will ultimately impact on teacher retention. Therefore, teacher retention becomes a concern for urban science departments. Such challenges can increase staff turnover among urban science teachers, and this may affect urban science departments in various ways. High turnover gives rise to greater reliance on supply teachers. The use of and reliance on short- or long-term supply teachers is inextricably linked to the issue of teacher recruitment and retention (Hutchings et al. 2006), ultimately affecting management and organisation of human resources, department cohesion and pupil continuity.

As mentioned earlier, much of the current urban science research focuses on pupils' learning and engagement, rather than teachers specifically, and again primarily is carried out in the US (Calabrese Barton and Tobin 2001). However, teachers are teaching these pupils, so what these teachers need to do to engage urban pupils is critical to their role as urban science teachers. In his autobiographical piece, Tobin (2000) describes how, when he relocated to the city, he was an experienced science educator in the US, but he quickly realised that things were radically different; he needed to re-evaluate everything he knew about teaching science. He had to 'negotiate his right to teach' the pupils, and this was challenging because they were ethnically, culturally and socially different from him. Tobin realised that much of what he believed to be successful science teaching in his former position was redundant in the new urban setting. He needed to learn how to gain the pupils' respect and make the curriculum relevant; he also discovered that pupil attendance was poor, and those that did attend often slept in lessons and failed to complete homework. Given the challenges Tobin encountered, even with his experience, it is hardly surprising that those new to the profession can find working in urban science settings difficult. This echoes the suggestions of Darling-Hammond (2006) that teachers need specific training and support to be successful in urban schools.

The notion of making the science curriculum more relevant to urban pupils from diverse backgrounds was also addressed by Selier et al. (2001). They looked at the formal science curriculum in an urban school in Philadelphia and how pupils engage with it, specifically in relation to teaching Newton's Third Law in mainstream classrooms. Within the project,

lessons were conducted by the regular classroom teacher and two researchers; the lessons were video- and audio-recorded and some pupils were interviewed after the lesson sequence. Below, I discuss some of Selier et al.'s findings and how such pupil behaviours might impact on teachers' experiences.

The initial problem faced was low pupil participation in the planned activities and the teachers/facilitators responding to the 'youth culture'; pupils were reluctant to engage specifically in dialogue with the adults in the room. If this pupil reluctance is generally experienced by urban science teachers in their classrooms, then this is an additional challenge during their working day. Pupils did not want to be controlled but, ironically, favoured traditional teaching approaches, unlike those being adopted by the teaching team in the classroom intended to promote pupil learning. Again, this dichotomy presents an issue for the urban science teacher; one can argue that some level of control is necessary. However, if by using more novel teaching approaches teachers are setting themselves up for more rather than fewer problems, this can be frustrating. All such relationship bonding with pupils requires both time and effort, and pupils who have had a history of teacher turnover may be more resistant to developing such relationships. Unless teachers are prepared to commit to such a challenge, then pupil behaviour may contribute to teachers' decisions to leave (Smithers and Robinson 2001).

In addition to making the curriculum relevant, resources have also been identified as an issue in science teaching. Lack of resources has also been found to limit the science teacher's experience (Selier et al. 2001; Knapp and Plecki 2001); without sufficient equipment, the practical element of science teaching cannot be fully achieved. In Solomon's (1993) study, science equipment was available but was an issue for a different reason. Solomon reported that urban pupils were 'mucking about with equipment' (1993:157).

Solomon (1993) is of particular significance as a UK researcher in this field. In her chapter 'Teaching science in areas of social deprivation', Solomon's work was 'the first British study which [was] specific to science teaching' (p.155). Solomon interviewed teachers and other staff from four urban schools to explore three categories:

1. Learning problems and behaviours in science lessons
2. Inferences made as to the cause of these problems
3. Strategies adopted which seem to improve science teaching

The teachers felt their pupils had weak language skills, short attention spans, low self-esteem and a lack of pride. The causes of these issues were linked to peer pressure, home stress, home literacy levels and pupils' lack of ambition. Strategies suggested to support pupils were: knowing pupils well, avoiding confrontation, planning lessons carefully and being aware of language use. The challenges Solomon reports resonate with Tobin's reflections above.

Research which focuses on pupils in the urban science classroom is important, as these pupils, in turn, shape the experiences of the teachers and therefore contribute to their sense of job (dis)satisfaction. Hence, they are a relevant component in the understanding of teacher retention. In the same way I consider pupils an impacting force on urban science teachers, I would also argue that school leadership is an impacting force on urban teachers. As a recurring theme, much of the leadership literature focuses on issues pertaining to the urban rather than being specific to science; however, Spillane et al. (2001) devote an article to connecting the entities, entitled 'Urban school leadership for elementary science instruction'.

Spillane et al. (2001) found school leadership to be of paramount importance within establishments; this suggests, therefore, that leadership has an important impact on teachers' experiences. The 13 Chicago elementary schools that they studied were 'high poverty institutions, with a minimum of 60% of students receiving free or reduced lunch' (p.922). The team used a variety of methods, which varied from school to school, including interviews and fieldwork. Two foci were developed: who or what influences classroom practice; and the 'dimensions of instruction over which influence was exercised by subject matter' (p.924). Generally, they found science was not high on leadership plans, being undervalued in relation to other subjects that were believed to better develop basic skills of numeracy and literacy; i.e. Maths and English. However, one school (Adams School) was different; under this school's principal, the research team found that science had moved up the agenda. Over time, the principal developed the school's material resources, and human and social capital. In the 12 years of her tenure, she focused teachers on the curriculum and instruction, and created opportunities for teachers to interact. She supported initiatives and appointed two science teachers to leadership roles.

This tallies with Lumpe et al.'s (2000) views that, in so far as teachers at the 'chalk face' may have visions for science, these plans cannot be implemented and achieved without

the support of the school management team. Adams School did not just move science up the agenda; strong positive relationships were forged both within and beyond the school, with local universities, science institutions and the wider school district. These external networks fed into the development of human and material resources.

It follows that leadership of the style described above instils a sense of value among science teachers, who feel that both their subject and professionalism are respected. Teachers subsequently have a more positive teaching experience, and I would anticipate, ultimately, greater commitment to the school. Hence the importance of school leadership and management in the retention of teachers, in this case urban science teachers.

The literature mostly comprises case studies, which do indeed show that being an urban science teacher entails a number of challenges that can make the role difficult to sustain. Such challenging positions can be difficult for a school to appoint to and, once appointed, may be hard to sustain. The role of an urban science teacher, therefore, is intrinsically linked to the issues of recruitment and retention; how easy or hard it is to recruit teachers into challenging roles and, consequently, how easy or hard it is to retain the teachers in these roles. My research will contribute to a growing body of case study literature but also extend the reach beyond the US, to include urban science teachers in England.

## **2.5 Recruitment and Retention Issue in Schools**

The oft-quoted statistic (both in the US and the UK) is that 50% of teachers leave the profession within the first five years. This figure is undeniably high and does not take into account more specific subjects or school types. There are no shortage of references in academic literature to the recruitment and retention issue in teaching in England (Smithers and Robinson 2001, 2005; White and Smith 2005; Troman and Woods 2000; Noden 2003), internationally (Weiss 1999; Boyd et al. 2002), in relation to specific subjects – for example, science (Dolton and van der Klaauw 1995; Smithers and Robinson 2005) and in specific settings such as urban areas (Noden 2003; Dolton and van der Klaauw 1995).

Recruitment and retention are two distinct issues. Recruitment is about attracting individuals into the teaching profession, while retention focuses on keeping those same individuals in the profession. Recruitment has been on government agendas under both ‘New Labour’ and the subsequent coalition. Since Tony Blair’s initial utterance of the

mantra ‘Education, Education, Education’ in 1997, government has constantly focused on many aspects of education including teacher recruitment.

There has been evidence that some progress has been made in teacher recruitment numbers, as reported by the Office of National Statistics (2007): ‘Between 1997/98 and 2004/05 the number of full-time qualified teachers in public sector mainstream schools in the UK increased by 3 per cent; to 441,000’. However, the picture is complex and does not show a steady increase.

Between spring 2000 and November 2011 the numbers of full-time equivalent teachers in service has increased by 32,200 from 405,800 to 438,000. This represents an increase of 7.9%. However, in the most recent year there has been a decrease in teacher numbers after a period where teacher numbers have remained relatively flat. For example, teacher numbers increased by 8,800 (2.0%) from 439,300 in 2007 to 448,100 in November 2010. Teacher numbers fell by 10,000 (2%) between November 2010 and November 2011.

(DfE 2012:1)

We cannot, however, be certain of these figures. As discussed above, the Royal Society found that the teacher workforce data is severely lacking in detail; they concluded there were too many data strands, resulting in a lack of coherent information about teacher numbers in England. Having briefly considered recruitment into the profession, I believe that teacher retention is a more pressing concern because there is little point in recruiting people into the profession if they do not stay. It is this ‘not staying’ that is occurring in many urban schools (Noden 2003; Dolton and van der Klaauw 1995).

While recruitment numbers are lower than desirable, there are in fact thousands of ‘qualified teachers, not currently employed as teachers by the government’ (Frijters et al. 2004:4). Retention, therefore, is of paramount importance. When considering retention three terms should be established: ‘turnover’, ‘wastage’ and ‘moveage’ (Smithers and Robinson 2005). ‘Turnover’ is the total number of teachers who resign positions in school or whose contracts finish. Some leave the profession, including those retiring; this is known as ‘wastage’. Others move to other maintained<sup>5</sup> schools, ‘moveage’. Smithers and

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<sup>5</sup> ‘Maintained’ schools is the term used in the report, as opposed to independent sector, meaning state funded schools.

Robinson coined the phrase ‘moveage’ in their research report of 2005. Given that ‘moveage’ is used to describe teachers moving between maintained schools, if a teacher leaves the state sector, yet remains in teaching, then a move to a private school would presumably be considered ‘wastage’.

Ingersoll (2003) highlights the issue of turnover with a revolving door analogy: ‘the data suggest that school staffing problems result from a revolving door syndrome: large numbers of teachers departing from teaching for reasons other than retirement’ (p.150). Teachers are not just taking early retirement; there is evidence that they are leaving the profession very early in their careers. Smithers and Robinson (2005) suggest many leave within three years of qualifying, while Dolton and van der Klaauw (1995) claim that ‘the percentage of teachers still in teaching after 5 years is about 66%’ (p.442).

It is clear, then, that while individuals are entering the profession, their career trajectories are by no means a simple linear progression. Research indicates that teachers do not all start as newly qualified teachers (NQTs) and work steadily in a specific number of schools, achieving promotion in the process.

While some follow the pathway described above, many do not, and alternative career trajectories have been discussed by Troman and Woods (2000). While working in the challenging role of teacher and experiencing career stresses, individuals were considered to adopt various adaptive strategies: ‘retreatism’, ‘downshifting’ and ‘self-actualisation’. Retreatism involves submission and can be enacted by ‘leaving the job’ (p.260). Downshifting includes ‘reducing workload, responsibility and status’ (p.262); and self-actualising can mean ‘rerouting’ (p.265) within the education framework or ‘relocation’ (p.267) to another school. These three trajectories materialise as turnover in the teaching workforce.

### ***2.5.1 What reasons do teachers have for leaving teaching posts?***

Teaching was once considered a job for life; however, it has now become ‘associated with employee attrition’ (Howes and Goodman-Delahunty 2013:1). Howes and Goodman-Delahunty interviewed former teachers and police officers to explore their reasons for leaving their professions. Rinke (2013) also considers teachers’ often very personal stories for leaving the teaching profession, while the findings of DeAngelis and Presley (2011) suggest that teacher attrition is more of an individual school problem than

that of a school type. The reasons that the above studies have found for teachers leaving the profession are synthesised below.

There are a number of aspects that are believed to impact on teachers' decisions to move schools or leave the profession. Ingersoll divided the reasons into the following broad categories: retirement, staff reorganisation, personal reasons (e.g. pregnancy) and, finally, job dissatisfaction or desire to pursue better opportunities (Ingersoll 2003:149–150). It is this last category, of job satisfaction, which I consider the most complex, and which leads to the reasons described below.

- **Salary** is the main reason given by teachers as prompting them to leave their current post. Ingersoll's (2003) figures suggest 54.3% of school teachers in the US claim that their job dissatisfaction is linked to poor salary. Dolton and van der Klaauw (1995) provide a detailed statistical analysis of teacher salaries in the UK to highlight the importance of relative earnings in turnover decisions. Interestingly, however, Frijters et al. (2004) found that when tracking those who had left the profession, their new salaries were often lower, suggesting they did not leave for pay issues alone.
- **Poor pupil behaviour** is also cited as a decision influencer; Smithers and Robinson (2001) report that 45% of teachers in the UK include this in their reasons for leaving (p.25).
- **Support** seems particularly relevant to those recent entrants mentioned above; some teachers feel there is a lack of support within the school, specifically in relation to the induction period (Weiss 1999).
- It has been suggested that the media can be very influential in creating a 'bad press' for teachers and therefore the profession often suffers a **status** issue: For instance, an illustrative statement by a teacher in Smithers and Robinson's (2001) study was 'teachers like my partner and me are leaving because we are not rewarded. The media image of teachers is an absolute disgrace. Everyone is slagging us off saying we don't need more money because we have such good holidays, which is a fallacy. Being maligned so much is disgusting' (p.27). This quote is from one of Smithers and Robinson's case study teachers who agreed to be interviewed and was identified by her headteacher as leaving the maintained sector.



- At the school and department level, **leadership** is perceived as important; lack of or poor leadership again affects teachers' decisions to leave their current positions (Smithers and Robinson 2005:52).
- Lack of quality **resources** – for example, textbooks, ICT equipment and other teaching resources – can impact on the success of the teaching role (Knapp and Plecki 2001) which may lead to dissatisfaction.
- **Workload** is associated with **time** allowed to complete a given task or undertake a specific role. Teachers always have concerns over lack of time; many reports highlighting this are quoted in Ross and Hutchings (2003:84–87).
- As mentioned previously, the UK government is very active in terms of the introduction of education-based **initiatives and policy**. The constant plethora of new legislation is what some teachers report they are wishing to escape from (Smithers and Robinson 2001:26).
- Boyd et al. (2005) mention that, for some, **pupil achievement** plays a part in teachers' decisions, with some teachers wishing to work in schools where pupil results are higher. This is accentuated by the accountability regime imposed on teachers in England by league tables.
- **Parents** and the wider community can be a huge support for schools and pupils; however, because of the strength of this influence, the same parties can also have a detrimental effect if unsupportive, as mentioned by Maguire et al. (2006).
- School **facilities** are explored by Buckley et al. (2005). The four they mention are: *air quality* and impact on health, and therefore absenteeism; *thermal comfort*, in relation to being able to control the temperature of the environment; *lighting*, with respect to intensity level and amount of daylight; and *noise levels*. Buckley et al. (2005) speculatively suggest that such facilities have a greater impact than might be expected, not just on morale, but possibly on attrition rates: 'the benefits of facility improvement for retention can be equal or even greater than those from pay increases' (p.16).

While the above is not an exhaustive list of factors to explain why teachers leave the profession, the intention is to highlight many of the main issues identified by researchers to date. Additionally, it could also be suggested that many of the areas overlap and impact on one another; for example, school leadership may impact on the level of support available for staff (Donnelly 2003), or the level of parental support could impact on pupil behaviour (Moscovici 2008; Desforges et al. 2003). In other words, the reasons

individuals leave the profession are complex and may be due to one or several of the areas mentioned above. What is also apparent is that many of the areas associated with teachers' decisions to leave/move schools are exacerbated within urban schools, such as lack of resources, poor facilities, pupil achievement and behaviour. Therefore, it is unsurprising that there is a higher turnover of teaching staff in many urban schools (Dolton and van der Klaauw 1995; Noden 2003). It can also be argued that lack of resources and poor facilities will have a greater negative effect on the teaching experience of a practical subject, such as science, again affecting the high turnover rate for science teachers (Smithers and Robinson 2005; Howson and Sprigade 2006).

This non-exhaustive list provided a further backdrop for my study. I seek to see if the identified factors are indeed featured in my participant teachers' experiences. I will contribute to the research area, not only by recognising the same factors in another setting, but also by drawing out the relative importance of the factors discussed above and assessing how they then influence teacher attrition. As Ingersoll (2003) states, turnover in itself need not be a negative entity; however, very high teacher turnover rates in urban science departments can result in several possible effects. It is these and their impact to which we now turn.

### ***2.5.2 What is the impact of teacher turnover on pupils and departments?***

It is worth noting that, while Howes and Goodman-Delahunty (2013) describe the move away from teaching being a job for life, Rinke (2013) recognises that teaching was once, in fact, a short-term career for young women before they moved on to another career or to meet their changing family needs. Either way, the issue for this thesis is to understand how teacher experiences inform their career decisions, and how they respond to the urban science teacher role. Despite the wealth – albeit not coherent – of quantitative data on who is leaving, moving and staying in the profession and why, I believe there is still not enough qualitative research on urban science teachers' experiences and those on which I focus, and the extent to which these are woven into issues of teacher turnover.

Firstly, it should be recognised that turnover need not be considered inherently undesirable – new members joining a school department can bring novel ideas and fresh eyes to reevaluate current practices. 'Too little turnover in any organisation may indicate stagnancy. Effective organisations usually benefit from a limited degree of turnover'

(Ingersoll and Smith 2003:2). However, if turnover is too high, this can have negative effects.

Employee turnover has especially serious consequences in workplaces that require extensive interaction among participants and that depend on commitment, continuity and cohesion among employees. From this perspective, the high turnover of teachers in schools does not simply cause staffing problems but may also harm the school environment and student performance.

(Ingersoll and Smith 2003:2)

So, while turnover itself is not a problem, high turnover is, and as Ingersoll and Smith highlight above, this is particularly so in schools. High teacher turnover results in pupils being taught by teachers for a shorter period of time; therefore, the consistency needed to develop strong pupil–teacher relationships is lacking. Pupils may also be exposed to long- and short-term supply teachers or possibly even cover teachers.<sup>6</sup> This lack of rapport building was highlighted by Archer and Yamashita (2003), who reported that ‘the high staff turnover impacted severely upon pupils who reported feeling “abandoned” and highly unsettled’ (p.64).

Additionally, in my experience, supply and cover teachers are also likely to be non-subject specialists, particularly in science, resulting in further disruption to pupils’ studies, as the teacher may not have the necessary knowledge nor confidence in the subject matter.

Noden (2003) explored the age and experience of teachers, observing that London in particular ‘had a younger teaching force than other regions of England’ (p.10) and found that schools with fewer experienced teachers were associated with (very slightly) lower GCSE results.<sup>7</sup> Rowe (2003) highlights the paramount importance of teacher quality in relation to student experience and outcome. The significance of teacher quality was also promoted in the government advertising campaign ‘*no-one forgets a good teacher*’ (1997). I am intrigued by the relationship between high teacher turnover and quality teaching.

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<sup>6</sup> ‘Cover’ is the use of internal staff, during their ‘non-contact’ time, to cover the lesson for absent staff. If a lesson needs covering more than once it is likely to be done by a different teacher each time.

<sup>7</sup> Interestingly, there was also found to be a link between lower GCSE grades and those teachers with more than 20 years experience.

Further to the impact on the pupils, staff turnover may influence department dynamics (Ingersoll 2001:505). Department dynamics is one of the aspects that arises in my study findings (Chapter 5). Turnover affects the sense of community within the team; teachers who stay may feel overwhelmed and resentful of those who have left and/or of those newly arrived who need support.

Such issues were discussed by Guin (2004), who used more qualitative methods to explore the quantitative data gathered through a climate survey completed by 95% of staff in one American urban school district. One interviewee explained:

Every time we lost a teacher, nine times out of ten it was a first year teacher we had brought in. Well, the first year is always sheer chaos and you feel like you are not doing anything appropriately. So we would constantly be getting a set of new teachers. Having perpetual chaos.

(Guin 2004:10)

Guin (2004) found several teachers expressing ‘resentment for having to do their jobs, as well as continually having to take on responsibilities for new teachers and their students’ (p.11). Such evidence suggests there is a reduced sense of community within the teaching team.

So far, we have acknowledged that urban teaching can be demanding; similarly, being a science teacher can be complex and therefore compounds urban science teaching, while rewarding can also be challenging. As the role is challenging, this affects recruitment and retention in urban science departments. Essentially, though, recruitment and retention within departments is one of the challenges of being an urban science teacher. Non-academically, one might describe this as a chicken and egg situation. As the role is demanding, it is difficult to recruit to, but the fact it is difficult to recruit to gives rise to one of the demands of the role, due to the associated issues it can also give rise to, such as reliance on supply teachers and lack of continuity. In order to address the chicken and/or egg, we must position the literature within the policy context. Education is highly politicised (Ball 2012); the political nature of education and teaching is also recognised by Philip (2013), acknowledging Cochran-Smith (2001) and Bruner (1996). Let us now turn to the policies that contribute to and intend to address the urban science terrain.

## **2.6 The Political Landscape of Urban Science Education**

As general elections must be held within a five-year time limit, governments, secretaries of state for education and policies change, often frequently. Burstow and Maguire (2013), mapping from 1940 onwards, report a substantial increase in the volume of school-focused legislation since the introduction of the National Curriculum, following the Education Reform Act 1988. This influx of education-focused legislation demonstrates education's high position on the political agenda. In recent years, this frequency of political intervention has not waned. A search of the gov.uk website reveals numerous policies and publications. However, searching for key terms and drilling down into the detail, there are a few key policy areas of policy I want to draw out in this section.

Firstly, urban science education/teaching is not a policy area in its own right. There is political awareness surrounding the three areas of urban (disadvantage), science and education, but not the three combined.

Secondly, urban/disadvantage politics has become less high profile. 'Excellence in Cities' (1999–2005) and 'Every Child Matters' (2003–2010) were both headline initiatives: the first was designed to raise standards in urban schools, while the second focused on the connectedness of the various children's services. Subsequent governments have shifted their focus for education and so these policies are now obsolete.

Thirdly, education policy can often focus on pupils and outcomes as opposed to focusing on teachers, who are arguably the most influential factor in pupil outcomes. Though it should be acknowledged that this is changing. One place this shift can be seen is through the Organisation for Economic Co-operation and Development (OECD), with the recent report on teacher professionalism (2016a). The OECD also include 'Teaching in Focus' briefings and a blog on their website (2016b). The briefings cover a range of foci, including: supporting new teachers, teacher learning communities, school climate and strong leadership. Such foci show attention to teacher professionalism and teachers feeling satisfied and valued. Another international avenue of increased focus on teachers is within European Commission (EC) documentation (2015a, b), which acknowledges the primary importance of teachers and therefore the need to optimise their contribution. Five key areas identified of importance for policy were: demographics and working conditions; ITE and the transition to the teaching profession; continuing professional development; transnational mobility; and attractiveness of the profession. Again, these identified areas show a shift towards teachers experiencing a higher profile in education

research. However, I mention with caution the longer-term influence of EC reports on the UK/England after the very recent referendum result to leave the European Union.

Fourthly, one of the national policy areas which does focus on teachers is that of teacher recruitment. In bygone years, there was little to no formal preparation for the teaching profession. Then, two main teaching qualifications routes were established: the Bachelor of Education (BEd), a four-year undergraduate programme; and the Post Graduate Certificate of Education (PGCE), a one-year course completed after completing an undergraduate degree. However, recently, in response to concerns over teacher numbers, education policy has seen a dramatic expansion in possible routes into teaching. These include Teach First (2002), School Direct (2012), undergraduate degrees with QTS (2012) and Troops to Teachers (2013). Applicants can also choose between higher education institutions (HEIs) or school-centred initial teacher training (SCITTs). Another policy area was the introduction of SKE courses at the tail end of the last Labour government (1997–2010). The enhancement courses are short courses of varying lengths, taken online or face-to-face, completed prior to the ITE, designed to help develop subject knowledge of the participants. This is by no means an exhaustive description of the teacher recruitment policy evolution; however, it does go some way to show the explosion of government policy interest in this specific area. The increased recruitment routes have led to small increases in teacher applicant numbers, but have not solved the problem. The plethora of routes has also led to confusion for applicants, as was highlighted in the Carter Review (Carter 2015). Further development and uncertainty arise from the very recent publication of *Education Excellence Everywhere* (DfE 2016).

While there has been increased focus on teacher recruitment, and this is undoubtedly important, the above policies tend to only focus on recruitment, thus, in my view, missing the hugely important issue of teacher retention – an issue that is of particular relevance for urban science departments. Recruitment, in some senses, is less than half the problem. While recruitment numbers are lower than desirable, there are in fact thousands of ‘qualified teachers, not currently employed as teachers by the government’ (Frijters et al. 2004:4). Retention, therefore, is of paramount importance. Compared with such an extensive array of recruitment initiatives, there is a stark lack of national retention policy, and it is this issue that my thesis addresses. Hence, this thesis proposes that a better understanding of urban science teachers’ experiences might better inform strategies to improve retention.

## **2.7 Summary**

In this chapter I have highlighted the literature on three groups of teachers pertinent to my study: science teachers, urban teachers and urban science teachers.

I began by presenting the quantitative data on science teachers in England in order to set the scene for my study. Many sources reported the lack of coherent data; yet, from the available data it can be surmised that science teachers are subject specialists, often teaching outside of their specialism. They are represented across age ranges; however, many have been teaching for a limited number of years. I argued that factors may increase the risk of attrition.

The literature on urban teachers, mainly from the US, shows that urban schools present a number of key challenges for teachers. Urban schools are described by their high level of deprivation rather than their geographical location. Specific demands include multiculturalism, language development, classroom management and pupil absenteeism. Again, I argue that in the case of urban teachers, these demands might give rise to an increase in attrition.

The literature referenced in this paper also suggests a number of issues through their absence. Notably, there is very little literature on what it means to be an urban science teacher in England: there is work on urban teachers and on science teachers, but very little combining the two, and even less set in the English locale. It is this research gap to which the findings of this thesis will begin to contribute. I focus on urban science teachers because my specialist area is science education and I live and work in the urban setting, so I have a strong personal interest in urban science. However, on a more fundamental level, we have seen throughout this chapter that there is a serious teacher retention problem in both science and urban teaching, suggesting urban science teaching provides a particularly acute context in which to examine teachers' lived experiences and issues of retention.

It is the intention of this study to try to understand such lived experiences, and how these inform urban science teacher career decisions; then, in turn, to suggest ways of better preparing and supporting those who choose to become urban science teachers.

I have looked at research and educational policy which relates to the ‘situated and professional’ aspects of teachers’ lives; however, to explore the teachers as individuals, the personal ‘self’, I shall consider some work on teacher identities in the next chapter.

This study focuses on urban science teachers and their experiences of working in a London school science department, exploring what factors influence the decisions they make, particularly with reference to their career trajectories. Not only do I consider this an under-researched area, but also, as discussed elsewhere, the acute issue of retention of science teachers in London school science departments needs to be addressed. I suggest that understanding those who work in such settings will enable me to make proposals to better support them and therefore improve retention.



### **3. Understanding Teacher Experiences**

#### **3.1 Introduction**

The terminology of ‘urban science teachers’ suggests that there is a generic type of person working as an urban science teacher, while in reality each urban science teacher is also an individual, whose own identity, views and experiences may shape their potential retention/attrition from urban science teaching. Therefore, in this second literature chapter, I will move from a broad view of urban science teaching to a more focused consideration of individual teachers, their roles, experiences and challenges. This more localised view will provide a lens to understand why some teachers remain in post and others do not (Rinke 2014). I want to explore teachers’ experiences and how they construct their role, and how these constructions mean that individuals may respond in different ways to the same context.

In order to understand teachers’ experiences, I will situate my findings within Day et al.’s (2006a) dimensions of identity and use Rinke’s work as a further analytical tool. Day et al.’s dimensions provide a way to organise my analyses, and so I locate their work within the wider identity literature. I will not be exploring participant identities *per se*; rather, my chosen analytical framework draws on dimensions of identity as a means to offer a more nuanced understanding of the five teachers’ experiences. Rinke then provides a more holistic tool to tie my findings back to the research questions.

Day et al. (2006a) argue that identity is a complex notion: identity formation is an ongoing process and there are a number of dimensions influencing one’s identity. These include the ‘personal’ and ‘professional’ dimensions of the self. Beyond these dimensions, the ‘situated’ dimension becomes particularly relevant. The situated dimension relates to the situation/location one is in; in the case of this thesis, that refers to the particular school, department and classrooms one works in. As I will argue in this chapter, Day et al.’s dimensions of teacher identity enable a nuanced understanding of urban science teachers’ experiences.

In the previous chapter, I argued that the more observable features of urban science teaching can go some way to map the urban teacher terrain. I attempted to identify various aspects of the role that influence teacher experiences, such as science specialism, urban pupils and school leadership, I now move to consider the personal, professional and situated dimensions of teachers’ experiences.

The chapter starts with a brief overview of the identity literature; covering conceptualisations of identity and assignment and construction of identity, as a means to situate Day et al.'s framework. I will argue that the concept and construction of identity are complex. One's identity is constantly evolving in response to a number of factors. These influencing factors can be both internal and external, which introduces the multifaceted nature of identity. This outline of identity literature enables an introduction to the VITAE project's dimensions of identity as the analytical tool of this study (Day et al. 2006b), and to the work of Rinke (2014) who I will return to in Chapter 8, as I consider how the teachers experiences, understood through an identity lens, begin to explain why teachers are retained or not, within a department.

## 3.2 What is Identity?

In the same way that I started from the Oxford English Dictionary for a definition of 'urban', I again start from the OED for a definition of 'identity':

The sameness of a person or thing at all times or in all circumstances; the condition or fact that a person or thing is itself and not something else; individuality, personality. Personal identity (in Psychology), the condition or fact of remaining the same person throughout the various phases of existence; continuity of the personality.

This definition lacks clarity. A basic conceptualisation of identity might focus on a person's role or place in society; for example, 'I am a lecturer in science education'. However, this requires defining the terms 'lecturer' and 'science education', adding to the level of complexity, in the same way that defining identity is complex.

It could be argued that notions of individuality were first explored by George Herbert Mead, the American philosopher, sociologist and psychologist. In *Mind, Self and Society* (Mead 1934), Mead discusses various aspects within the remit of the title; I do not think he explicitly defines 'identity'. Beijgaard et al. (2000) acknowledged this and contended that early notions of 'identity', including those of Mead's, were rather 'vague', being concerned with 'the self' or 'one's self-concept'. Over the past century, the concept of identity has evolved to become complex, though arguably a definitive definition of the concept of identity remains elusive. Hall (1996) has devoted much his working life to theorising identity and has written widely on the matter, stating 'identities are never

unified and ..., increasingly fragmented and fractured; never singular but multiply constructed across different, often intersecting and antagonistic discourses, practises and positions' (p.4). This, again, evokes the complexity of a definition.

Some contend that the complexity of identity is not a new notion: 'at no time did identity "become" a problem; it was a "problem" from its birth – was *born as a problem* [...], could only exist as a problem; it was a problem' (Bauman 1996:19). Bauman's quote suggests that defining, let alone understanding, identity is neither a recent problem, nor is it one we might seek to solve. Similarly, as described by Cribb and Gewirtz (2009):

In simple terms, a person's identity can be understood as the answers to the questions: who do I think I am and who do I want to be? Despite the fact that these appear to be very simple questions, intense and often complex, convoluted and theoretically obscure academic debates have raged around the concept of identity.

(p.135)

My conceptualisation of 'identity' recognises that it is a slippery concept. Focusing on urban science teacher experiences from such a perspective provides a challenge, as there is no single agreed conceptualisation. However, as I discuss next, the literature provides some useful orientation points.

### 3.3 Dimensions of Identity

Broadly speaking, there are two ways of conceptualising identity; firstly, as an internal construction and, therefore, from a psychological standpoint; and secondly, located within a wider framework and, consequently, from a sociological perspective. From the former position, identity can be considered to be self-defined and stable and measurable, although I am aware that some might claim this to be an oversimplification of the positivist approach. From the latter position, identity can be perceived as a process, active and discursive; involving the self and beyond, i.e. a more social constructivist approach.

I consider the work of Elias as illustrating the psychological position on identity. He talks of the internal self, where one constructs identity independently of external factors:

The image of the individual as an entirely free, independent being, a 'closed personality' who is 'inwardly' quite self-sufficient and separate

from all other people, has behind it a long tradition in the development of European traditions ... In this role, as *homo philosophicus*, the individual gains knowledge of the world 'outside' him in a completely autonomous way.

(Elias (1968) in Du Gay et al. 2000:285)

He ultimately encapsulates the notion of identity in terms of individuality, with the concept of *homo clausus*:

The conception of the individual as *homo clausus*, a little world in himself who ultimately exists quite independently of the great world outside, determines the image of the man in general. Every other human being is likewise seen as a *homo clausus*; his core, his being, his true self appears likewise as something divided within him by an invisible wall from everything outside, including every other human being.

(Elias (1968) in Du Gay et al. 2000:286)

While Elias views society as a 'collection of individuals' (p.288) operating on a superficial level to communicate with one another but never exposing their 'true "identity"' (p.290), Lawler (2008) adopts a more outwardly connected position in locating identity. She discusses highly complex notions in very accessible language without losing any of the complexity. She takes a more sociological perspective, suggesting that 'identity needs to be understood not as belonging "within" the individual person, but as produced between persons and within social relations' (p.8).

Those social relations may include relatives, work colleagues, friends. One's identity may evolve from a sense of 'sameness' with others, as the Latin root word *identitas* suggests, say, one's sex or ethnicity, or as a result of a feeling of 'difference'. Sameness may lead to a notion of shared identity if people experience commonality within a group; for example, if all the members are women. Yet, one's identity can arise from a feeling of being different; say, being black within a group of white members. Lawler (2008) also discusses the notion of identification as being the same but different simultaneously, with the example of being a 'woman' and yet not identifying all that being a woman might be associated with, as she finds them 'unpalatable' (p.2). It is not stated what 'certain features' are, but I infer she would disassociate herself from the stereotypical notions, say 'talk too much, can't read maps', etc. What Lawler finds 'unpalatable' is unlikely to be

universal of all women, so some women may feel some of the stereotypes do accurately reflect them and admit to talking for hours to their friends on the telephone. Similarly, there may be features of being a woman that some women feel they do not possess, and how much this impacts on their sense of being a woman will vary. This variation can also be seen to arise from the roots of the variance; for example, sharing features common to women might be 'biologically based' while dissociation might be a result of 'cultural/social constructions'.

Such complexities of identity construction are explored by Hall's interpretation of identity theory. Hall (1996) offers a thorough production of identity theory and he recognises that 'There has been a veritable explosion in recent years around the concept of "identity"' (p.1). Hall not only discusses the relevance of the social world to one's identity but also the non-static nature of identity.

The concept of identity deployed here is ... a strategic and positional one.  
That is to say, directly contrary to what it appears to be ... this concept of identity does not signal that stable core of the self, unfolding form beginning to end ... without change.

(Hall 1996:3)

Hall considers one's identity as a process and, therefore, formation of identity is ongoing, rather than a formed and fixed entity. Spivak described identities as being 'in process' or 'becoming': 'temporary full stops in an ongoing sentence' (Spivak 1988, cited in Archer 2004:462), as opposed to identity being set in stone and not affected by one's experiences and surroundings. This is a sociological view of identity that contrasts with the more psychological perspective of Elias and with which I hold stronger favour.

It can be argued that one's identity is constantly being formed and re-formed in response to lived experiences; identities are contextual, socially and historically produced. Indeed, Bourdieu (1987) uses the idea of life histories as a way of constructing identity. He sees life histories as more than just telling the story of one's life; by putting events into context and connecting experiences, one begins to understand who one is, and therefore constructs an understanding of one's own identity.

It is in this notion of life histories as a route to understanding one's identity that we meet the concept of 'multiple' identities. Burke (2003) describes his own 'multiple' identities as follows: 'I am a member of the university faculty (social identity), a professor (role

identity), and a person with high standards (personal identity)’ (p.196). These different identities can be evolving and complimentary to each other. When looking at urban science teachers, they too have multiple identities, such as a science identity, a teacher identity, a counsellor identity, to name but a few.

As a final point, it should be mentioned that as Burke ascribes his own identities, these are his ‘narrated’ identities, but were I to assign identities to his description of self, these would be ‘designated’ identities. Gewirtz and Cribb (2008) clarify this difference:

In discussions around identity, there often appears to be a conflation between two uses of the term: the way in which people identify themselves and the way in which others identify them. For us, identity is first and foremost about the account that we give of ourselves rather than about the accounts that other people give of us.

(p.40)

Yet there are those who suggest ‘narrated’ and ‘designated’ are not so easily separable; for example, Carlone and Johnson’s (2007) discussion of science identity. They consider the science experiences of successful women of colour, considering how 15 participant women make meaning of their experiences and how society structures possible meanings. Carlone and Johnson (2007) argue that:

... identity is not just something an individual feels; it is not even what an individual does, although both feelings and actions are components of identity. A science identity is accessible when, as a result of an individual’s competence and performance, she is recognized by meaningful others, people whose acceptance of her matters to her, as a science person.

(p.1192)

How others see us can impact on how we see ourselves and this – I would suggest – contributes to shaping our experiences. We may not believe we fit into another’s view, which can result in conflict. What others see as the role of a teacher, let alone an urban teacher, a science teacher or an urban science teacher, may be different from how those teachers see themselves. For instance, there may be a disconnect between how teachers view themselves compared with government expectations of teachers and/or how the media portrays teachers, and this may profoundly impact on teachers’ experiences of the

role and their potential attrition. Often, responsibility for addressing society's failings are placed in teachers' laps, leaving teachers to feel they are overwhelmed and underachieving, and working towards constantly moving goalposts. The media frequently presents teaching as a job with short days and long holidays, resulting in teachers feeling misrepresented and undervalued (Weber and Mitchell 1995). Such clashes epitomise notions of 'narrated identity'/self-concept jarring with 'designated identity'/concept of others.

I now move from general identity theory to focus on teacher identities in particular and explore how general identity theories may relate to teachers' experiences and issues of retention/attrition.

### **3.4 Teacher Identities**

Over a decade ago, researchers commented on the relative lack of literature on teacher identity (Beijaard et al. 2000). Since their article, there has been a distinct growth in work on teacher identity, including a focus on science teachers' identities (Avraamidou 2014). In this section, I intend to draw together the work of those researchers who have considered teacher identity in order to provide a basis for understanding of how 'identity' is enacted by teachers, and in particular how it may shape the experiences of urban science teachers. In this way, I develop a lens for understanding individual teachers and examining how they manage their roles and the ways in which their sense of self, views of professional identity and their specific contexts shape their retention/attrition.

Day et al. (2006a) propose that teachers' identities are constructed from their professional and personal lives and the interactions between these spheres. They describe Kelchtermans' (1993) professional self as consisting of: self-image; self-esteem; job motivation; task perception; and future perspectives. Nias (1989) studied UK primary school teachers to distinguish between the professional and the personal, noting that early career teachers tended to separate the two more readily.

When entering the teaching profession, one sees oneself in a professional sense as a teacher and also on a personal level as an individual. So, from Monday to Friday one operates under one persona, while at the weekend one may go under a different guise. However, over time this distinction can become less pronounced, because the worlds merge. For example, one may move to live in the community in which one works or may

increasingly socialise with other teachers. This evolution of identities further supports the idea that identity is not fixed, but develops over time and in relation to specific contexts. This merging of identities can, therefore, cause consequential impact from one identity dimension to another. For example, success or failure in the professional context can affect one's personal sense of self. Should you have a poor performance review in the workplace, at school, it can impact on your confidence in the home and, for instance, influence the extent that you begin to feel inadequate, say as a mother. While these conflicting identities need not be specific to teachers alone, I would contend that they are relevant to teachers. It is these different identity spheres and how they interact which I wish to consider in the remainder of this chapter.

#### **3.5 Teacher Identities: Subject Matters**

I have stated on numerous occasions across previous chapters that research on urban science teachers has generated more understanding regarding urban teachers than about science teachers. When scientists choose to become teachers, they apply to become science teachers and not necessarily urban teachers. Their subject specialism is their primary focus at the profession entry point. However, if these science teachers are employed in urban schools, they become urban teachers and their science focus may become sidelined. Sidelining may occur as teachers can be absorbed by urban elements of their practice; for example, the increased diversity of pupil learning needs and various supports required, as was highlighted when defining urban schools in Chapter 2. This sidelining of the teacher's subject specialism may have a negative impact on the teacher's sense of self. I believe the eclipsing of science – a diminished focus – will influence science teachers' experiences as they evolve over time in teaching posts. It is difficult to 'become' an urban science teacher, if one is too absorbed in 'becoming' an urban teacher. Varelas (2012), in her introduction to identity construction in science education, talks of how learning, teaching and science each play a part in the 'becoming' process.

Beijaard et al. (2000), inspired by Bromme (1991), analysed questionnaires from 80 teachers in the Netherlands. The teachers all had more than four years' teaching experience and represented a range of subject specialists. In response to the questionnaires, three categories of teacher types were explored: 'teachers derive their professional identity from (mostly combinations of) the ways they see themselves as subject matter experts, pedagogical experts, and didactical experts' (p.751). Use of the



word ‘combinations’ in the quote suggests these categories need not be mutually exclusive. The first category relates to ‘a teacher who bases his/her profession on subject matter knowledge and skills’; the second to ‘a teacher who bases his/her profession on knowledge and skills to support students’ social, emotional and moral development’; and, the third to ‘a teacher who bases his/her profession on knowledge and skills regarding the planning, execution and evaluation of the teaching and learning process’ (Beijaard et al. 2000:754).

The analysis showed that teachers tended to see themselves more as subject matter and didactic experts and less as pedagogical experts. That is to say, teachers identified more with the notion of themselves as subject matter specialists and facilitators of learning than as providing students with support for social, moral and emotional development. It was also evident that this self-image had changed over time, in that ‘beginning teachers’ were more focused on the subject matter aspect of their identity, and that this was particularly the case for maths and science teachers. This is noteworthy, since it includes the group in which I am interested, science teachers. As was discussed earlier, concern is greatest with regard to recruitment and retention among science teachers within the first five years of entering the profession. This finding suggests that urban schools might well be advised to appoint more experienced teachers, who have transitioned from seeing themselves as subject experts to considering themselves as pedagogic experts. Having made the transition in how they view themselves, more experienced science teacher may adapt better to the demands of urban teaching. A move towards pedagogy over subject might compliment the shift from science to urban. Eick (2002), discussed later, explores similar ideas when looking at science and education majors.

What is significant here is that in the previous chapter it was seen that the age profile/experience of teachers was lower in urban settings. If this mismatch exists, then better support for teachers is needed to navigate their identity development in ‘becoming’ an urban science teacher. Additionally, ‘more male than female teachers currently perceive themselves as subject matter experts’ (Beijaard et al. 2000:758). Again, we have seen in the previous chapter that the science teacher workforce, particularly in the physical sciences, has a higher male to female ratio than many other subjects. So, if there are a greater number of male science teachers, it follows that there are a greater number of teachers who perceive themselves as subject matter experts. While urban schools cannot appoint females over males, without considering other applicant attributes, schools might want to be more aware of this difference and similarly support all, but

especially male, teachers in ‘becoming’ both urban science teachers and pedagogic experts.

In an earlier study, Beijaard (1995) noted how teachers’ subject specialism impacted on their identity and status. Let us consider science, a core subject, versus history, a non-core foundation subject, or even drama – which is not part of the National Curriculum. Such indicator labels could result in teachers feeling held in higher esteem as a ‘core’ teacher or possibly under greater pressure.

Similarly, there are implications around whether a teachers’ subject specialism matches that school’s titled specialism. For example, teaching science in a school with specialist technology college status or one with performing arts status may affect where management allegiances lie or how funds are distributed. And then, consequently, this may impact on a teacher’s sense of self. If a school has ‘performing arts status’ then funds may be distributed more within the performing arts departments. It is possible to conceive of a situation where science teachers within such a school would feel resentment at the perceived distribution of the school budget or that their ideas or department are not equally valued. Science teachers may remain in post in a specialist science school, as there are better resources, increasing retention. Conversely, they may feel the science focus brings greater external monitoring and pressure, which could then affect attrition.

As identities evolve, there is an ebbing and flowing of harmony and conflict, which ultimately impacts on retention and attrition. Eick’s (2002) use of personal histories to explore reasons for science teachers’ career choices links back to Chapter 2 and the notion of science teacher attrition. Attrition is particularly high when teachers feel vulnerable, particularly in the early years of their career. We have seen previously that this is the stage when teachers are establishing themselves, and therefore their initial identity, one might argue, is yet to ‘fit’ into a ‘community of practice’ (Lave 1991; Wenger 1999). What is interesting about Eick’s research is that he chooses to focus on why teachers enter and remain in the profession, rather than the common theme of why they leave. Eick claims that, beyond better working conditions and pay, teachers stay for deeper reasons associated with ‘personal satisfaction and a sense of caring’ (Eick 2002:354). Through participants’ writing, it was shown that ‘science majors’ focused strongly on their love of and passion for science and how this was a key component within their identities, while the response of ‘science education majors’ tended more towards education. This seems significant to me, as the majority of UK science teachers come through the science degree

plus PGCE route, as opposed to the BEd route. This may mean that many of the PGCE students are interested in science teaching primarily due to their love of science, over the teaching/education element. And, if this is the case, it could be that the possible dominance of urban over science in science teaching in urban schools is contributing to the turnover rates. The perceived overshadowing of science in urban schools teaching could arise from various aspects. Firstly, many urban schools cater for pupil ages 11–16; the absence of post-16 teaching for some scientists might make the position less attractive. Some science teachers may feel constrained by the curriculum, seeing the independent sector or non-urban schools as affording more time to dedicate to science. Arguably, in some urban schools, there may be fewer high-attaining students, or the school may not prioritise science, as discussed above. Such (re)positioning of science may have necessary consequences on a teacher's identity as the science identity dimension is shifted.

Subject matter is also discussed by Helms (1998), who carried out in-depth interviews with five US secondary science teachers. Helms' interviews led her to suggest that science teachers' identities are strongly influenced by their subject specialism. Helms' science teachers reported that their subject was very important to them; it was often stated in phrases like 'it is "who I am"' (p.817). Helms found the subject/science to be important, and yet on many occasions cited within the literature and personal experience, we have found that the science takes a back seat to the urban in terms of identity.

'John' (one of Helms' teachers) discusses other people's reactions to him. He reported that others became more impressed as he stated he was a teacher, and more so when he claimed to be a science teacher, and further impressed when he clarified he was a physics teacher. It would appear that others increased their level of respect for him the more he divulged about himself. Others saw each new level being more impressive than the last. Being a teacher was impressive, being a science teacher was more impressive and being a physics teacher was more impressive still. 'Among pupils in England, physics is perceived as rather an "elite" subject, which is viewed as conceptually very difficult and only suitable for exceptionally able pupils (Woolnough, 1994; Osborne et al., 1998)' (Reid and Skryabina 2002:67). It is likely that others could not imagine being teachers themselves, so were impressed by John. Additionally, they did not like science, especially physics, so someone who can teach a hard subject in which others were not successful is by their reasoning an impressive individual.

### 3. Understanding Teacher Experiences

This example emphasises how interactions with others impacts on a person's sense of self; if others hold a position in high regard, self-esteem can be increased. It is possible that this increased self-esteem increases the likelihood of attrition, as individuals may feel they might be better placed elsewhere, where science has greater prominence.

It follows, then, that it is fair to suggest the reverse may also be true, i.e. if others are negative about a role, the person may become less self-assured. Family and friends may imply that a role is a waste of talents or the media may present an inaccurate picture of what the role consists of. The implication for urban science teachers is that views of friends and family, or the media, with regard to the value of their role may impact on their decisions to remain in post.

As an example, let us consider the response to the introduction of the revised Science Key Stage 4 curriculum in September 2006. This curriculum was devised as a reaction to the *Beyond 2000* report and was designed to increase pupil engagement.

Previous key stage 4 science curricula were criticised for concentrating too much on the needs of future scientists at the expense of science that is relevant to students' everyday lives.

(QCA 2005:2)

However, despite support from some sectors, notably the Nuffield Foundation, there were also high profile critics, such as the Royal Society. The media were quick to report on the changes, and the BBC quoted individual critics: Sir Richard Sykes of Imperial College London and educationalist Baroness Mary Warnock. The phrase quickly adopted was that the curriculum was only 'fit for the pub' rather than the classroom (BBC News 2006a). This coined phrase suggested that the course lacked academic rigour and that discussions about views on a topic such as global warming might be more appropriate in the pub rather than between students in a GCSE classroom.

Subsequent research through the Enactment and Impact of Science Education Reform (EISER) study revealed that teachers were divided over the new course (Ryder et al. 2014). However, arguably, such criticisms may have impacted on teachers' identity constructions and experiences. If teachers are either having something they believe in criticised, or are teaching something they believe to be inappropriate, this is likely to impact on their sense of self. Such press could have particular impact, given that Beijaard

et al. (2000) report that teachers, especially science teachers, predominately view themselves as subject matter experts.

From the work of Olitsky (2007), we learn that subject matter is also important in its absence. For example, science is a school subject but teachers will be specialists in one or more discrete areas; physics, for example. As explained in the previous chapter, science teachers are often required to teach outside their subject specialism; this is often reported as being a concern (Shulman 1986). From personal experience, PGCE students often discuss their lack of confidence in teaching outside their specialism. This feeling of inadequacy has an obvious impact on one's sense of self. However, Olitsky (2007) makes a rather unexpected discovery. When working with an out-of-field teacher, a physics specialist teaching chemistry, she found that pupils responded more positively to the teacher. By allowing the pupils to see the teacher as a non-expert, some of the social distance between the teacher and pupils was removed. One would expect this response to impact more positively on one's sense of self, and experiences of teachers, than feelings of inadequacy.

Identity is not only concerned with the content that science teachers teach, their subject matter/science identity (Carlone and Johnson, 2007; Carlone et al. 2014), but also whether individuals see themselves as teachers (Hillier et al. 2013). Hiller et al. invited physicists from seven pre-service teacher-training cohorts from three English universities to answer an online survey with follow-up telephone interviews. Eighty respondents completed questionnaires and 24 interviews were conducted. The data enabled the researchers to describe how pre-service physics teachers were less likely to see themselves as teachers than other subject graduates and that often serendipitous experiences, such as education modules taken to avoid 'lab', led to the revelation that teaching might be something physics graduates 'could enjoy'. This further supports the notion that science and teacher identities may be specifically complex to co-construct.

In this section, I have argued that science can play a key part in science teachers' identity construction, that subject matters. Many science teachers view themselves primarily as scientists, so becoming a science teacher may require both a mind shift and support, in preparation and in post. The extent of fit/dissonance between a teacher's science specialism and the specialism they are required to teach and the impact of this on their teaching role may also play a part.

### **3.6 Who Else Constructs Teachers' Identity?**

Having explored teachers' identity constructions in relation to their subject specialism, I now turn to the influence of external factors on one's identity and experiences. The notion of narrated and designated identities was introduced in section 3.3 above, namely the idea that one's identity is not just how one sees oneself, but also how others see one and how one feels they are seen. In this section, I will explore these views of teachers by others. Teachers interact with pupils, parents, colleagues, governments, to name but a few. Teachers, like non-teachers, also interact with their own friends and family. This plethora of interactions provides a number of influencers on one's identity construction.

By introducing social space to the discussion, identity shifts from being self-constructed to being collectively formed. Coldron and Smith (1999) draw on more than 20 years of personal experience 'to acknowledge what it feels like to be a professional in today's school' (p.711). They argue that becoming a teacher is not only about seeing oneself as a teacher, but also aligning one's identity with the expectations of others, therefore constructing an identity that is 'socially legitimated'. They argue that we know ourselves by our position in relation to others. Coldron and Smith (1999) assert that there is a difference between where others locate teachers and where teachers locate themselves. For example, teachers know that teaching is a profession, which by definition involves training and qualification. However, those outside the profession do not necessarily acknowledge this definition and, therefore, the teaching profession is not always held in the highest prestige in wider society (Hoyle 2001). Teaching is not the lowest ranking profession on the occupational prestige league table, but it is not the highest; professionals such as doctors and lawyers occupy this position. This reveals a mismatch between where teachers position themselves and where others position them, so that how teachers narrate their identity can be different from how it is designated. Ultimately, this discrepancy can require navigation of an identity shift.

Such relational constructs, therefore, draw us back to designated identities (Cribb and Gewirtz 2009). Friends and family can designate identities. My own anecdotal evidence emerging from interviews with prospective PGCE students suggests that some applicants apply to teaching from within a family background of teaching. Again, anecdotally, I find teaching is often a profession that runs in the family. Entrants to the profession are fully aware of the nature of the role and may therefore exhibit high levels of commitment, motivation and resilience, as they enact their family discourse (Archer et al. 2014).

However, some may be applying against their family's wishes, while others are applying due to family expectations rather than their own desires. If others hold teaching in low esteem and indicate that teaching is a waste of their talents, then a teacher's identity may be built on that foundation; while if someone is becoming a teacher on the advice of others, then it may mean they are not fully committed to the profession.

We can also look beyond the teachers' immediate relationships to see how the views of others can play a part in teachers' identity constructions. Coldron and Smith (1999) identify four traditions of teaching; the craft, moral, artistic and scientific traditions. Each of these traditions can be thought of as a model of teaching practices. How a teacher allies themselves with each tradition/model informs the teacher identity they develop, as Hall (1996) describes:

Identity is produced ... as part of a conversation around social positioning at any time ... the process by which groups, movements and institutions try to locate us for the purpose of regulating us within symbolic boundaries in order to locate us, give us resources, or take resources away from us.

(p.130)

Taking each tradition in turn, the 'craft' tradition sees the role of teaching through a very narrow lens, to put it generously. Teaching is seen as a set of skills that can be learnt through apprenticeship alone, without need for theoretical and intellectual engagement. Coldron and Smith (1999) argue that the morphing of teacher 'education' into teacher 'training' is indicative that government views teaching as a 'craft' tradition. This view of teaching can spread through wider society via media input and has impacted teacher status, they argue. This view of teaching has led to a shallow understanding of teachers and at the extremity has resulted in the stereotypical view that teaching is a 'cushy' job, with short days and long holidays.

While, as a teacher, you know this is not the case, knowing others think this of you may, however, affect your self-image. Your narrated identity may recognise your teacher education, with theoretical connections and often involving masters-level assignments, enabling you to self-position, while others may affect that positioning and designate an alternative identity, as discussed above in section 3.3.

Settlage et al. (2009) claim that through use of quantitative methods and follow-up interviews with a small number of pre-service elementary participants, the research team

have created ‘designated’ identities for the participant teachers. The stories we tell about ourselves are our narrated identities and the stories others tell about us are our designated identities. Thus, there is an inevitable tension between where we position ourselves, where others position us, and where we position ourselves in relation to where others place us.

If you accept a notion of being a teacher you know to be untrue, the ‘craft tradition’, you are condoning an image you believe to be false. If you defend your position and try to present a more realistic image, you may set up a further undesired impression by retaliating. Either way, you are required to compromise yourself and, therefore, your notion of self/identity. In this way, urban science teachers in my study may have to choose to ignore negative perceptions by others of what their role entails or constantly challenge them, again giving rise to questioning their career choices.

The ‘moral’ tradition presents teaching as ‘an activity that continually requires moral judgements’ (Coldron and Smith 1999:717). Teachers are required to evaluate what they are required to do by external forces or school ethos and what choices they make in the classroom. This draws on the idea of personal life histories: being educated in a comprehensive school might affect how you feel teaching in the private sector, or one might compare pastoral care systems in the school they attended with that in which they teach. Teaching in an urban school may involve practices and structures which are new to the teacher and different from previous experience in other school contexts; for example, how relationships with parents are managed, or pupil behaviour policies. Such change in routines may require teachers to reposition themselves and, again, may impact on the construction of teacher identity within the new setting.

The ‘artistic’ tradition removes the social aspect of teaching and focuses on teaching as independent of others; individual and ‘personal’. ‘All teachers have their own stock of stories, examples and moments, remembered with a shudder or a smile, that contribute to their sense of professional identity and guide their actions’ (Coldron and Smith 1999:719). It is the way in which teachers independently personalise their practice, as Day et al. (2006a) state, so that the ‘overwhelming evidence is that teaching demands significant personal investment’ (p.603). It is this personal investment in which I am interested. For me, teaching is not just a job – becoming and remaining a teacher requires motivation and commitment. And yet, my findings suggest there is a more complicated



story. In Chapter 5, I argue that there are also elements of pragmatism and serendipity at play in teachers' career decisions around retention/attrition.

The final 'scientific' tradition is concerned with the teacher as a scientific researcher, applying the 'scientific method' to an educational setting. 'By "scientific" we mean a response to an educational question that is characterised by open, systematic enquiry' (Coldron and Smith 1999:720). Teachers may conduct research in their own schools or classroom, often called 'action research', or engage with the research of others. This might be through qualification; masters', or less frequently, doctoral studies, or through professional bodies such as the Association of Science Education (ASE) or the Institute of Physics (IOP). While many might see this framing of teaching as empowering, Coldron and Smith (1999) present an alternative way to conceptualise the 'scientific' tradition, as, say, training teachers to copy good practice. In contrast to the discussion above of the 'craft' tradition, the scientific tradition might be conceived of teachers that merely want to be given a toolbox of teaching 'tricks' or tips. While the teachers may recognise these tips as rooted in research, they may consider the research itself as not their domain. Again, mismatches in perceptions between education research and teaching around the role of a teacher may give rise to conflict within the construction of a teacher identity.

Coldron and Smith (1999) do not claim that there are only four social traditions of teaching, but they do claim that 'these traditions provide influential models' (pp.715–716). These models, and others that might be proposed, offer a frame of reference for how teaching may be dominantly constructed – both by teachers and others. The important point I want to make from Coldron and Smith's work is to see the extent of 'fit' or dissonance between one's own and key others' conceptions of teaching and teacher identity. That is to say, seeing yourself as fitting, or at odds, with images of teaching, and whether others see you as fitting, or at odds, with these images, may affect your experiences and sense of self and, therefore, influence your identity construction and the degree and likelihood of retention or attrition.

### **3.7 Contested Identities**

Day et al. (2006a) discuss Cooper and Olson's (1996) identification of the tensions which can emerge, and retreat, between multiple selves; for example, when one's personal beliefs might begin to contradict one's professional response; or when teachers may be required to suppress their personal identities in order to adopt a prescribed professional

role. For example, an early career teacher may understand a pupil's behaviour as they compare it to their own when they were at school. However, the teacher must also uphold the school rules, so may be obliged to sanction the pupil accordingly, despite their personal understanding and empathy.

MacLure (1993) explored the feelings of alienation that can arise when teachers are no longer able to reconcile their personal identities and values with their professional positions in a school. She referred to this dissonance as 'spoiled identities'. If the demands of the role coming from school management or government policy conflict with a teacher's own ideals, then they may start to question their position in the school. These spoiled identities may contribute to teacher attrition. MacLure (1993) notes that such teachers often take early retirement, resign or take extended leave for stress-related illnesses. She reports that many of the 69 primary and secondary teachers she interviewed in her study felt that their faces 'no longer fitted'. They reported feelings of frustration that senior management did not notice their hard work and that what was claimed to be valued was in fact masking an alternative covert agenda. MacLure (1993) points out that teachers are not able to articulate these covert agendas, but the sense of such alternative agendas being in play is relevant to the perceived transparency of the school setting.

As previously discussed in Chapter 2, education is a 'policy heavy' setting, both at the school and government level. It could be argued that many policies impinge on teachers' professionalism by removing autonomy, therefore eroding trust (Firestone 2014; Cucchiara et al. 2013). More specifically, particular policies and practices may lead to 'spoiled identities'. For instance, an individual teacher may spend months supporting a pupil to achieve a grade D in GCSE science, but may find this work devalued in a league-table-driven context where only A\*–C grades are considered important. When such teacher efforts pass unrecognised, teachers can become disheartened. If they can no longer reconcile their personal goals (e.g. progress for all) with leadership visions (e.g. overall number of pupils achieving grades A\*–C) this can lead to 'spoiled identities' among the teachers. It is these such conflicts which I believe can contribute to urban teachers' contested identity (see Chapters 5 and 6) and possible subsequent decisions to remain in post.

MacLure (1993) asserts that identity can be understood as an argument, 'a resource that people use to explain, justify and make sense of themselves in relation to others, and to the world at large' (p.311). In the same way as I discussed how teachers' 'fit' with four

teaching traditions (Coldron and Smith 1999) may lead to teacher identity struggles, MacLure (1993) sees identity as a ‘site of permanent struggle for everyone’; she believes teachers in particular were experiencing a ‘crisis of identity’ (p.320) when her research took place, under a context of structural/policy change. The ‘Teachers’ Jobs and Lives’ research project took place between 1987 and 1990, a time of great transition for education, not least the 1988 Education Reform Act and the introduction of the National Curriculum. While I acknowledge that MacLure’s (1993) work is now somewhat dated (she explores the consequences of the 1988 Education Reform Act), the findings hold much relevance today. My research data were also collected at a time of continual policy education policy reform (see sections 1.2, 2.1 and 2.6). So, while teachers are currently experiencing different reforms to those investigated by MacLure (1993), they are still experiencing constant process review and change, which may entail a similar ‘crisis of identity’ (ibid) for teachers today.

Stronach et al. (2002) looked at teacher and nurse identities in flux in response to the uncertain politics of professionalism. Their data source was an English National Board-funded evaluation of eight case study nurses and 24 teachers interviewed in an ESRC-funded project. They discuss the rise of an ‘economy of performance’ and the audit culture, namely quantitative performance measures, such as pupil assessment scores, which they juxtapose with ‘ecologies of practice’; i.e. teachers’ professional dispositions and commitments. It is not that these worlds are irreconcilable polarities, but that the two impinge on one another and therefore on identity and teachers’ experiences. For example, in England, early years pupils are expected to meet a specific target reading level by the end of Year 1 (performance economy); teachers of those pupils need to reconcile this target with fostering a love of books/literature (ecology practice). Balancing these two positions requires skill to meet both demands. Stronach et al. (2002) discuss teachers’ images of their profession, and for the most part conclude that ‘teachers seemed to portray their roles as over-crowded and conflicted’ and ‘their professionalism [was] something they had lost’ (p.117). As teachers balance external control and personal belief, say in the example of reading, Stronach et al. (2002) coin the phrase ‘walk the tightrope of an uncertain being’ (p.121); that is, teachers must balance competing identities and demands to survive. Remaining with the circus metaphor, they also describe how teachers are required to ‘juggle between “economies of performance” and “ecologies of practice”’ (ibid). This echoes MacLure (1993) above, and resonates with the example of attempting to juggle the ‘economies of performance’, the contemporary teaching context of league-

table- and exam-result-driven culture, with the ‘ecologies of practice’, such as personal motivations to support the progress of all students.

Arguably, this ‘tightrope walking’ and ‘juggling’ are all the more challenging for the urban science teacher. As we have seen in Chapter 2, the role of an urban science teacher is complex; they are subject to particularly intense pressures, described in Chapter 5, and therefore the urban science teacher identity maybe particularly complicated.

In addition to ‘spoiled identities’, MacLure (1993) found a surprisingly high number of teachers – more than half – exhibiting ‘subversive identities’. This term refers to those who wished to deny at least part of their teacher identity, e.g. disassociating themselves from other teachers outside school. In the same way, some of my participant teachers talked of a disconnection with others in the department (see Chapter 5). MacLure’s (1993) respondents discussed the image of teachers as being ‘dull’ and wished to suggest that their ‘true’ selves lay in the other pursuits of their lives.

Another way that teachers identified themselves in MacLure’s (1993) study was through ‘oppositional’ identities, i.e. saying what they were not, rather than what they were. This may also be a way of segregating oneself from others, ‘building up complex profiles of the sorts of teachers they were “not”’ (p.316). One teacher segregated herself from the other teachers in her school, whom she referred to as ‘the trendies’, by considering herself ‘apolitical’, ‘well dressed’ and favouring ‘traditional’ methods; while she viewed her ‘trendy’ colleagues as left-wing, scruffy and having progressive teaching styles. The generalisation cast here might imply a wish to dissociate with a specific teacher identity and set of teaching practices (for example, mixed ability grouping of pupils). There was some evidence of my teachers holding similar dissociative tendencies (see Chapter 5), where they do not mix very much within the science department, and even less so among the general teaching staff.

Lumpe et al. (2000) interviewed a sample of science teachers (although not specifically urban science teachers). This study assessed teachers’ context beliefs about their science teaching environment. The purpose was to learn more about how teachers believed their context impacted on their ability to achieve their goals; e.g. if they felt they were in an environment which controlled their success. Figure 3.1 below shows how Lumpe et al. (2000) believe the link between capability belief and context belief can be expressed. Capability belief is one’s belief in oneself to achieve a desired outcome, while context

### 3. Understanding Teacher Experiences

belief is focused on the environment and the impact that it may have on achieving the outcome; ‘in the case of science teaching, context beliefs would encompass not only the students, but also administrators, parents, other teachers, institutions, organizations, and the physical environment’ (p.278). By linking the two in this way, Lumpe et al. (2000) represent ‘Personal Agency Belief patterns’, which could offer some understanding of urban science teachers and their lived experiences.

<i>Context belief</i>	<b>Positive</b>	Fragile	Modest	Robust
	<b>Neutral/variable</b>	Self doubting	Vulnerable	Tenacious
	<b>Negative</b>	Hopeless	Discouraged	Accepting/antagonistic
		<b>Weak</b>	<b>Modest or variable</b>	<b>Strong</b>
		<i>Capability belief</i>		

Figure 3.1: Teachers’ context belief relative to capability belief (Lumpe et al. 2000:279).

For instance, looking at the figure above, teachers with a strong capability belief and a positive context belief are ‘robust’, while those whose beliefs are weak and negative are ‘hopeless’. If different urban science teachers have different beliefs in both themselves and their context, then it may explain why some are more resilient than others, why some stay and others leave as a result of their lived experiences.

Lumpe et al.’s (2000) analysis of their data lead to the identification of 28 factors which were considered to influence science teaching. Some factors were considered highly enabling and highly unlikely; for example, teachers believed more science equipment and time as well as smaller class sizes were highly enabling factors; however, the same teachers also considered that these were highly unlikely to be achieved. However, one particularly relevant conclusion for my study relates to teachers’ experience, ‘as teachers come to understand the school environment and bureaucracy, they find ways to make the system work’ (p.286). My findings, in Chapter 5, show that two teachers in particular are able to undertake this system navigation in order to remain in post. This suggests that inexperienced teachers will be less able to make the system work, and may explain why

there is such a high attrition rate in the first five years of entering the profession (Dolton and van der Klaauw 1995). This is pertinent to urban science teachers, as many are young and inexperienced (Noden 2003) and may not be able to ‘make the system work’.

### **3.8 VITAE as an Analytical Tool: Professional, Personal and Situated Identities**

I now turn to the VITAE project (Day et al. 2006b). The project team drew on much of the literature discussed above and provide me with my key analysis tool; hence the level of detail that the work is afforded below.

‘Variations in Teachers’ Work, Lives and Effectiveness’ – the VITAE project – was commissioned by the then Department for Education and Schools and was carried out by researchers at the University of Nottingham and the Institute of Education, London.

The research took place between 2001 and 2005, providing ‘real-time’ longitudinal data and a time-tracked view of 300 teachers. Half the participants were primary teachers and half were secondary maths and English teachers. Therefore, while the authors generalise about teachers, this sample did not secondary science teachers. The teachers came from 100 schools from seven local authorities in England, and represented national teacher profiles and differing school locations and contexts. The team adopted a multi-method approach, including collecting school and pupil data, teacher questionnaires and interviews, and describe their methodology as ‘less constrained by limiting theoretical perspectives and more focused on the practical problems of addressing particular research questions’ (Day et al. 2006b:13) such that ‘methods were selected on basis of fitness for purpose’ (ibid). Data were collected from teachers, school leaders and pupils. Below is an extract of the teacher data collected:

Table 3.1: Data collected in VITAE project (Day et al. 2006b:25)

Focus	Method	Participants	Time
Teachers	Questionnaire survey	Year 2, 6 and 9 (Maths and English) Teachers in all schools in sample LAs	Spring 2002
	Semi-structured interview	300 case study teachers	Autumn 2002; 2003; summer 2005
	Hierarchically-focused interview	300 case study teachers	Summer 2003
	Narrative approach interview and teacher workline	300 case study teachers	Summer 2004
	Telephone interview	300 case study teachers	Spring 2005

Day et al. (2006b) conceptualised identity as a composite, ‘consisting of interactions between personal, professional and, situational factors’ (p.149). Comparisons can be seen with the teacher development findings of Bell and Gilbert (1994). Bell and Gilbert found that teacher development involved professional, personal, and social development, and that each of the three elements played a role on teachers learning. By substituting situational for social, the same interconnectedness can be applied to development of teacher identity.

Day et al. (2006b) explain that, in their approach,

Each composite identity is made up of sub or competing identities:

- 1) Professional identity – is open to the influence of long term policy and social trends as to what constitutes a good teacher, classroom practitioner, etc. It could have a number of competing and conflicting elements such as local or national policy, CPD, workload, roles and responsibilities etc.

2) Situated or socially located identity within a specified school, department or classroom – is affected by pupils, support and feedback loops from teachers' immediate working context, connected to long term identity.

3) Personal identity – is based with life outside of school, could have various competing elements such as identity of being a father, son, partner, etc. Feedback comes from family and friends and these often become sources of tension as the individual's sense of identity could become out of step.

(p.149)

These dimensions of identity can be both discrete and overlapping, as the VITAE team represented the idea diagrammatically as follows (Figure 3.2):

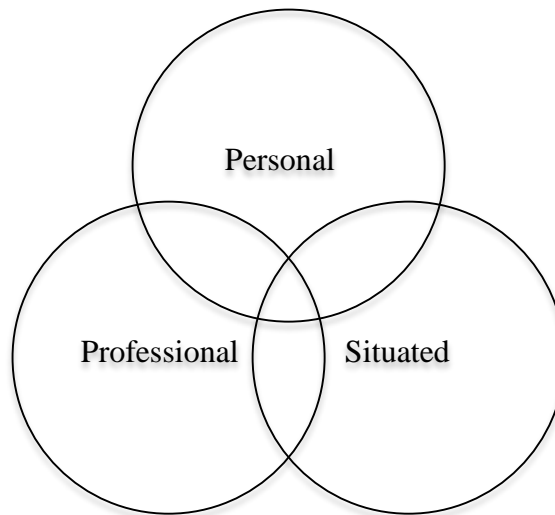


Figure 3.2: Identity dimensions in balance (Day et al. 2006b:151).

Each dimension can be positively and negatively influenced, and can therefore change in its degree of dominance. For example, if one is getting married, such an occasion may increase the dominance of one's personal identity in a positive way. Conversely, if one is getting divorced, this may increase the dominance of one's personal identity in a negative way.

In Figure 3.2, all three dimensions are in balance, of equal size, and therefore considered to represent one's identity in a stable state, identified by Day et al. (2006b) as Scenario 1. Other scenarios are set up when the balance is disrupted. Scenario 2 occurs when one dimension is dominant, so the example cited of a teacher getting married would result in dominance of the personal dimension of their identity. Scenario 3 arises when two



dimensions are dominant; say a teacher is getting married (personal dimension) and has a new head of department (situated dimension). Finally, Scenario 4 occurs when all three are dimensions are dominant, e.g. the teacher is getting married (personal dimension), has a new head of department (situated dimension) and must adopt a new National Curriculum (professional dimension) (pp.151–152). Scenarios 1 and 4 are different, in so far as in Scenario 1, the dimensions are in balance, whereas in Scenario 4 they are in conflict, ‘causing extreme fluctuation in teacher identity’ (p.177).

One way in which to imagine Scenario 4 is that each circle will enlarge in such a way as to effectively reduce the overlap between dimensions, possibly even removing the intersection of all three dimensions, resulting in a less stable identity (see Figure 3.3 below).

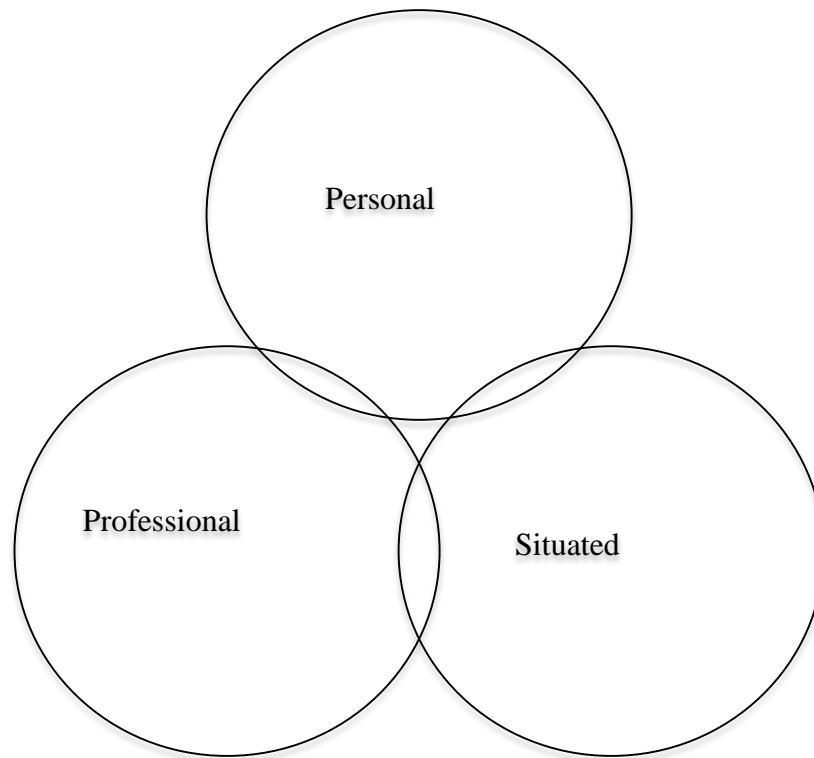


Figure 3.3: One representation of Scenario 4, showing no intersection between all three dimensions.

An alternative way in which to imagine Scenario 4 would be for each circle to enlarge in such a way as to effectively increase the overlap between dimensions, therefore increasing the intersection of all three dimensions (see Figure 3.4 below). For example, the impact of a new head of department (situated) may mean that you have to be in school for longer working days; this spills over into home life, as you need to rearrange your

childcare arrangements for these new working hours (personal), requiring increased ability to manage the scenario, possibly resulting in a less stable identity.

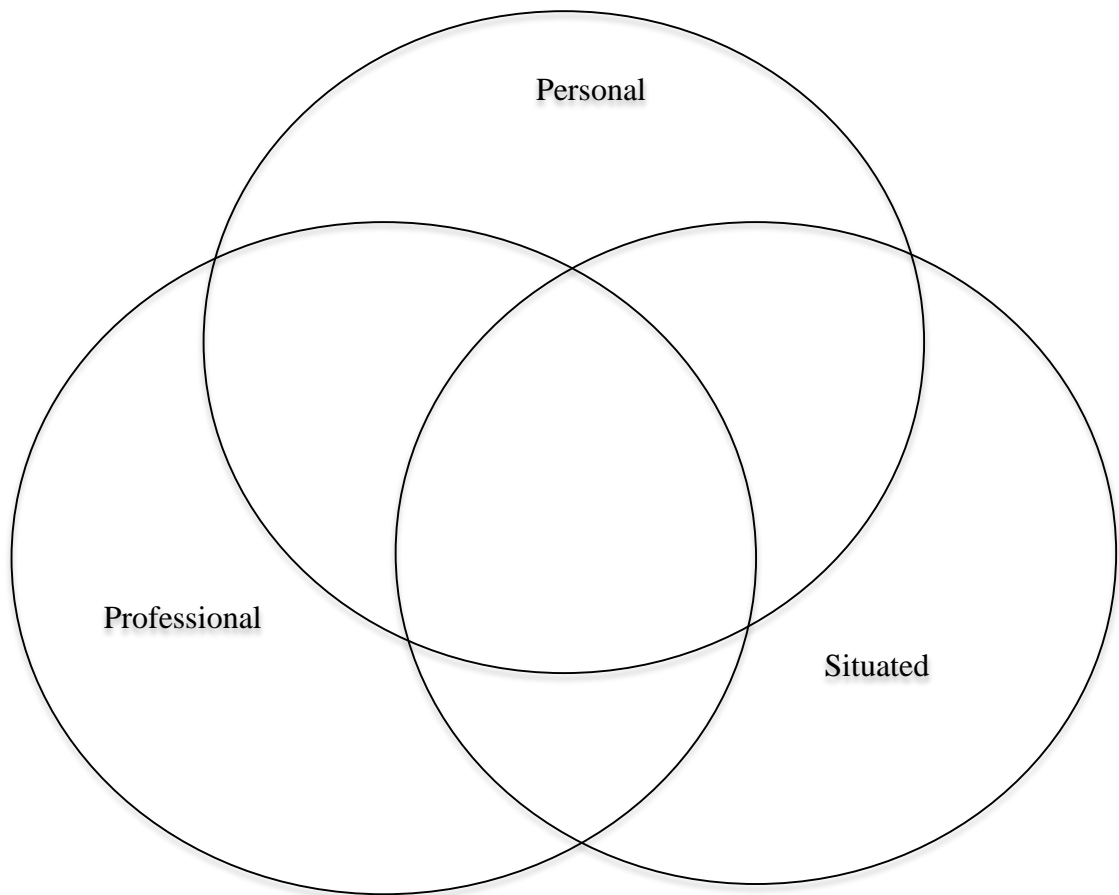


Figure 3.4: Another representation of Scenario 4, showing more intersection between the three dimensions.

Analysing the research data, the 300 participant teachers were assigned by Day et al. (2006b) to one of the four scenarios. Table 3.2 gives the percentages of teachers assigned to each scenario:

Table 3.2: Percentage of teachers assigned to each VITAE scenario (adapted from Day et al. 2006b:154)

Scenario	Percentage of teachers in scenario
Scenario 1	35
Scenario 2	44
Scenario 3	15
Scenario 4	6

It should be noted that teachers in Scenario 1 were more likely to teach in schools with a lower number of pupils entitled to free school meals, while teachers in Scenario 4 were

more likely to teach in school with a higher proportion of students so entitled. This is relevant to this study, as it has been seen in the previous chapter that urban schools are more likely to have a higher percentage of pupils claiming free school meals. Scenario 4, when all three dimensions are dominant and therefore conflicting, requires greater effort by the teacher to manage the scenario. This finding is relevant, since urban schools tend to have a greater number of pupils entitled to free school meals; therefore, urban teachers may be particularly prone to experiencing conflicting identities. Table 3.3 below shows Day et al.'s (2006b) scenario summary:

Table 3.3: Teacher numbers within each assigned scenario

	<b>Scenario 1</b>	<b>Scenario 2</b>	<b>Scenario 3</b>	<b>Scenario 4</b>
<b>Teacher numbers assigned to scenario</b>	35% of 295, N=102	44% of 295, N=131	15% of 295, N=44	6% of 295, N=18
<b>Numbers of resilient teachers in assigned scenario</b>	79% of 102, N=81	65% of 131, N=85	48% of 44, N=21	17% of 18, N=3
<b>Vulnerable teachers</b>	21% of 102, N=21	35% of 131, N=46	52% of 44, N=23	83% of 18, N=15

Table 3.3 shows various trends; more teachers are assigned to Scenarios 1 and 2. Within Scenarios 1 and 2 there are more resilient teachers; consequently, there are more vulnerable teachers in Scenarios 3 and 4.

Day et al. (2006b) define resilience as 'the ability of an individual to withstand or recover quickly from difficult conditions is a necessary condition for sustaining commitment' (pp.xviii, 50). The research team judged the teachers' levels of resilience 'as a result of a cross-data cut analysis ... This meant that they were more likely to be positive regarding their well-being and the balance they managed to achieve between the pressures of work and home life' (p.158). This difference in resilience and vulnerability shows that where there is a greater level of imbalance within a teacher's identity the more vulnerable they can become, hence raising attrition concerns.

In the final project report, each scenario is described by Day et al. (2006b) in detail and examples of the teachers assigned into each scenario are presented (pp.155–182). This extensive account also included a number of individual teacher 'stories'. Iva's story is

shared here for three main reasons. Firstly, it is in a narrative ‘story style’ writing, used by the VITAE report, which prompted my decision to write teacher stories for each of my participant teachers. Secondly, Iva represents Scenario 4, which represent teachers who are more likely to teach in urban schools with a high proportion of free school meals (FSM), mirroring my project focus. Thirdly, Iva tells a story that could easily be one of my participant teachers. Iva is classified as a Scenario 4 teacher because her story shows challenge in all aspects of her identity. What is also significant about Iva is that she is resilient, and manages her conflicts by relinquishing some of her school responsibilities, much like Troman and Woods’s (2000) notion of ‘downshifting’, and again like some of my teachers (see Chapter 5).

Iva’s story, a Scenario 4 teacher:

Iva was in her 40s and had taught for nearly 25 years. She was a Year 6 teacher in an urban moderate socio-economic status (FSM3) primary school of 255 pupils. She was Assistant Headteacher and maths Co-ordinator. Iva had a difficult boy in her class in Year 1 of the Project, who played a ‘dynamic’ role in class. She was very dissatisfied with the amount of time she gave to behaviour management.

Iva felt that policies, either internally or externally developed, had negative influence on her work, her effectiveness and her values. This was particularly the case in her early career phase. But she added that her attitude towards policies had changed. Seven years ago Irene [sic] had thought about leaving teaching because she felt that she had had enough with the national policy overload. But her husband had been made redundant and she could not afford to give up her job.

Iva felt that her work encroached into her personal time. She wanted to spend more time looking after her four children, but paperwork at home had taken time away from her own family and she felt guilty about this. Iva’s health had suffered since Year 1 of the Project and she was on anti-depressant tablets. This was a major consequence of the pace and weight of her job, particularly the workload accrued from her multiple roles.

Iva felt that her drive, enthusiasm and motivation had decreased over the years as ‘the job has become harder over the course of the year’ and the

‘pressures are too great’. She had spoken to the head about relinquishing her responsibilities as assistant head.

(Day et al. 2006b:178–179)

The VITAE project resulted in 12 core messages. All 12 can be discussed in relation to teacher identity; however, four core messages explicitly mention identity.

*1. There are significant variations in both teachers’ perceived and relative effectiveness across year groups and sectors. Teachers’ capacities to be effective are influenced by variations in their work, lives and **identities** and their capacity to manage these.*

*4. Teachers’ capacities to sustain their effectiveness in different phases of their professional lives are affected positively and negatively by their sense of professional **identity**.*

*5. Teachers’ sense of **identity** is a major contributing factor to teachers’ commitment and resilience. It is neither intrinsically stable nor unstable, but can be affected positively or negatively by different degrees of tension experienced between their own educational ideals and aspirations, personal life experiences, the leadership and culture of their schools, pupil behaviour and relationships and the impact of external policies on their work.*

*8. The extent to which teachers sustain their commitment (i.e. are resilient) is dependent on their capacities to manage interactions between personal, work and professional factors which mediate their professional lives and **identities** positively or negatively.*

(Day et al. 2006b:vi–vii, my emphasis)

I have selected these four core messages as they specifically include the word ‘identity/ies’; however, it is the last two (5 and 8) of the four I wish to unpack further. The first two (1 and 4) focus on ‘effectiveness’ and in my study I did not especially consider teachers’ ‘effectiveness’.

Teachers’ identities are neither necessarily stable nor unstable. Stability of identity can be affected in either direction in response to levels of tension. If there is a high level of tension between teachers’ own ideologies and school management, this could result in a

stable or unstable negative identity. If teachers cannot manage interactions between the many facets of their lives they are less likely to remain in the teaching profession.

The core messages hang tightly together and, in many ways, are not that surprising as research findings. These core messages resonate with my own experiences in schools; as a teacher, teacher-educator and researcher. For example, taking the final message (point 8), some of our recent PGCE graduates struggle to adapt to the heavier teaching timetable and increases in school expectations. School demand in conjunction with personal stresses such as moving house or getting married can make it impossible for some to remain in post. From both the associated literature and personal experience, it follows that teachers are complex individuals, who juggle many roles; if such juggling is too difficult or not appreciated, then teachers are likely to feel less motivated, and this is likely to be reflected in their effectiveness and commitment. In my research, I wish to explore whether urban science teachers experience such feelings and how this ultimately impacts on their personal career decisions.

To achieve this understanding of my participant urban science teachers, I will use the identity dimensions of the VITAE project to analyse and code my research data. To use the VITAE dimensions as an analytical tool in my research, I must first identify both the similarities and differences between Day et al.'s (2006b) research and my own.

#### ***3.8.1 Similarities between the VITAE project and my study***

The VITAE project aimed 'to identify those factors which contributed to these variations and why teachers do, or do not, become more effective over time' (Day et al. 2006b:vi). The research involved a longitudinal study with a first phase which audited local authorities and identified a range of schools. The second phase of data collection was from 2002 to 2005 (p.19). My data collection period also occurred over an extended period of time, from 2008 to 2011. The VITAE sample included secondary teachers, some of whom worked in the urban locale, and some of whom Day et al. (2006b) identified as 'Scenario 4' teachers (p.152). During the data collection phase, the teachers were interviewed six times (p.27), a figure comparable to my five interviews.

The VITAE team considered one of the limitations of their data as being the absence of classroom observations (p.55); these were not carried out due to funding constraints.

Interestingly, after observing during my pilot study, as described above, I chose not to observe, as I felt this was not adding value to my data.

In discussing their ‘methodological synergy’ (p.12), the VITAE team describe their approach: ‘the team, therefore, chose a methodology less constrained by limiting perspectives and more focused on the practical problems of addressing particular research questions .... Research methods were selected on the basis of *fitness for purpose*’ (p.13). This approach is very similar to the pragmatic decisions I needed to make in my own research, described above.

Further to the methodological similarities discussed above, I also want to recognise similarities in the study foci; Day et al. (2006b) were concerned with teachers’ work and lives and develop an understanding of why teachers stay in post, which is at variance with much of the literature, which focuses on why teachers leave (Dolton and van der Klaauw 1995; Smithers and Robinson 2001). Theoretically, the VITAE study examines concepts of commitment and resilience, which are similarly key to understanding my participant teachers.

#### 3.8.2 Differences between the VITAE project and my study

The obvious difference between our two studies is scale. The VITAE project was a major DfES-funded commission. The case study sample consisted of ‘150 teachers from 75 primary schools, and 150 maths and English teachers from 25 secondary schools’ (Day et al. 2006b:23); these schools were from seven local authorities (p.32). On the other hand, I have a much smaller case study of five teachers in one urban school.

Another significant difference is that in Day et al.’s (2006b) sample there were no secondary science teachers, while all five of my sample are urban secondary science teachers. This difference supports the claim for my study to be novel. As mentioned above, the heavily-funded VITAE project adopted a multi-method approach. A large amount of quantitative data was also collected, and data from pupils was gathered, neither of which feature in my data set.

Again I wish to recognise the difference – methods aside – in the foci between my study and the VITAE project. In addition to the focus on teachers’ work and lives, Day et al. (2006b) also consider ‘effectiveness’. This is not my focus and it is one I wished to pursue in this PhD. The VITAE team argue that including effectiveness is one of the key features

of their work that has not been considered before (p.4). However, firstly, I would question the validity of measuring teacher effectiveness without classroom observation, and secondly, I did not consider this to be an appropriate approach to take with my sample teachers. I approached my case study department to ask them to help me tell the story of being an urban science teacher, something that they were keen to do. I would expect the response would have been very different if I had suggested that the research also made judgements about how ‘effective’ they were as teachers.

#### **3.9 Teachers’ Experiences: Understanding Why Some Remain in Post and Others Do Not**

As I stated at the opening of this chapter, I am using Day et al.’s (2006a) dimensions of identity as a tool for understanding teachers’ experiences. Using the dimensions enables me to explore why some teachers remain in post and others do not. Rinke (2014) also sought to understand teacher attrition; her book title states, ‘*Why Half of Teachers Leave the Classroom*’. The book was written from data collected between 2005 and 2011, in one city public school district in the US, and the research was conducted in two phases. The first phase included a large-scale survey and the subsequent identification of eight case study science teachers, who were followed for 12 months. The second phase, six years later, involved a follow-up survey, and the eight participant teachers were reconnected with. The case study work involved regular teacher interviews and classroom observations. Rinke found that teaching is not always perceived as a lifelong vocation; some enter the profession are doing so as an ‘exploratory’ career. In addition to this, Rinke acknowledged teachers ‘plans mattered ... that initial career plans are tightly linked to ultimate career pathways’ (2014:19). With these initial factors identified, Rinke used interviews and observations to explore teachers’ experiences and ultimately consider teacher attrition. Rinke found that of her eight teachers, three remained in teaching, though not in their original school; these were identified as ‘stayers’. Two teachers left the classroom, yet remain with the educational field: ‘shifters’; and three teachers ‘left’ education altogether.

Like the VITAE project, there are similarities and differences between my study and the research of Rinke (2014). We both focus on a small number of urban science teachers over a number of years, thorough interviews and some observations. However, Rinke’s focus is set in the US, not the UK, and looks at a school district, not a school.



Significantly, though, Rinke's work makes very little reference to identity; she attributes the explanation for teacher attrition to their individual experiences. This focus on experience enables me to move from the identity dimensions as a tool, to an understanding of teacher experiences to attempt to explain why teachers remain in post or not. In this thesis, I draw on both Day et al. (2006a, b) and Rinke (2014) to develop a more holistic understanding of teachers' experience.

### **3.10 Summary**

In this chapter, I have discussed the use of identity dimensions as a tool to understand teacher experiences. I located my core tool, Day et al.'s (2006a) dimensions, within the identity literature. This literature set out 'identity' as a complicated concept; our identities are constantly evolving and, therefore, not a fixed point to be defined. Identity evolves internally (psychologically) and also within a social context (social construction); it is about how we see ourselves and how others see us, and the interplay between the two. There are many dimensions contributing to the way we see ourselves and others see us; that is to say, identity is a multifaceted concept. Having paved the way for the use of Day et al.'s (2006a) identity dimensions, I introduced the VITAE project. The project highlights three interconnected dimensions of identity: professional, situated and personal dimensions. How these will be used to frame analysis of my data will be discussed in the next chapter on methodology. Day et al. (2006b) also adopted a storied approach to presenting teacher identities, which has led to my use of narrative and life histories (Goodson 1991, 1992). This will also be detailed in Chapter 4. I will argue that responses to instabilities can generate resilience to redress the balance of identity dimensions or can lead to vulnerability, leaving the imbalance unsustainable. The chapter closed the identity loop by moving from the dimensions tool to Rinke (2014), who explores teacher experience and subsequent retention, or not, without heavy focus on identity. In using both Day et al. (2006a, b) and Rinke (2014) I am seeking to develop a more holistic understanding of teacher experiences.

As discussed in the next chapter, this chapter has provided the context and literature that informs my study analyses, namely: how the participants experience their urban science setting (situated dimension), how the participants respond to the experience (level of resilience) and, ultimately, how this informs these teachers' career decisions to remain in post (identity stability).

## **4. Research Methodology, Methods and Participants**

In this chapter I will describe the methodological approach and subsequent methods adopted in attempting to address my research questions:

1. What are the day-to-day experiences of five science teachers in one urban school?
2. How do the teachers construct their role as urban science teachers and what influence do the participants' professional, situated and personal identities have on this role construction?
3. How do the participants' experiences and role construction influence their career decisions and, in part, affect why some of them remain in post while others do not?

In addressing my research questions above, I hope to be in a position to suggest implications for three key areas: policy and researchers, schools, and individuals.

### **4.1 Paradigm Conception**

Ontology is the study of being, that is, the nature of existence. While ontology embodies understanding what is, epistemology tries to understand what it means to know. Epistemology provides a philosophical background for deciding what kinds of knowledge are legitimate and adequate.

(Gray 2004:16)

According to Wellington (2000), ontology is the nature of reality and epistemology is the way in which we acquire knowledge of that reality. For the purposes of this research, epistemology will be taken to mean the way in which knowledge is interpreted and understood. In order to understand what it means to be an urban science teacher, a constructivist epistemology will be adopted. An objectivist epistemology considers that reality or truth is 'out there' to be discovered through observation; while constructivism does not see knowledge as something to be discovered, rather that meaning is constructed by subjects. Subjectivism, on the other hand, not only considers the interplay between subject and object, but also how meaning is constructed 'from within collective

unconsciousness, from dreams, from religious belief, etc.’ (Gray 2004:17). Figure 4.1 below provides a very useful overview of the various paradigm elements.

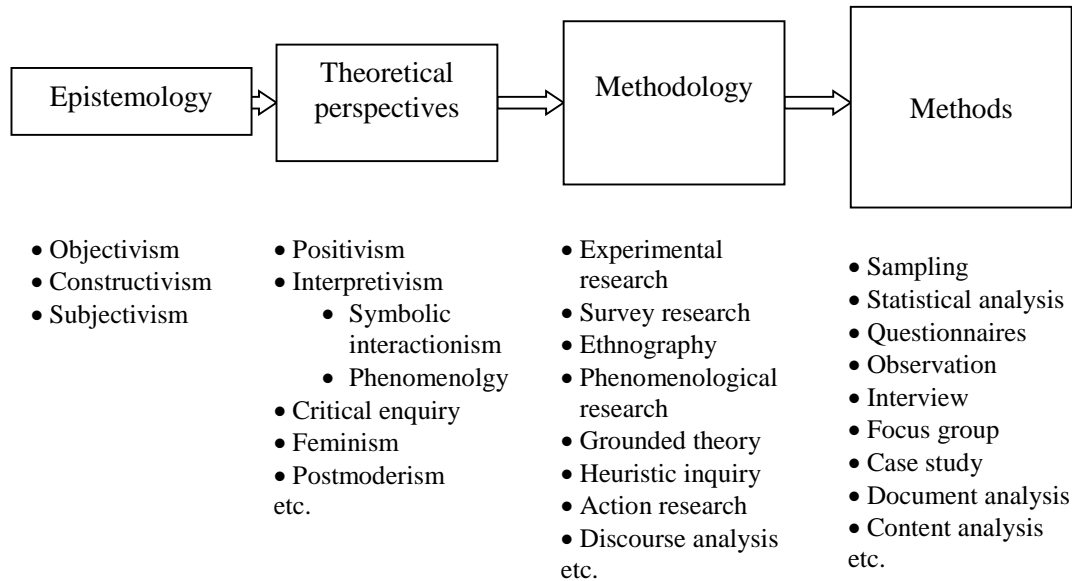


Figure 4.1: Relationship between epistemology, theoretical perspectives, methodologies and research methods (Gray 2004:17).

I have adapted the diagram above to form Figure 4.2, colour-coding my perceptions of how a given epistemology might be associated with a theoretical perspective and the subsequent methodologies and methods. It is evident that this is not an easy classification to assign. The objectivist stance is coloured red and the constructivist stance is green, though some overlap is possible. I have not made identification for the text which remains black. I have also attempted to use blue to distinguish entities relevant to my research. Figure 4.2 provides a clear overview of the approach taken in this thesis.

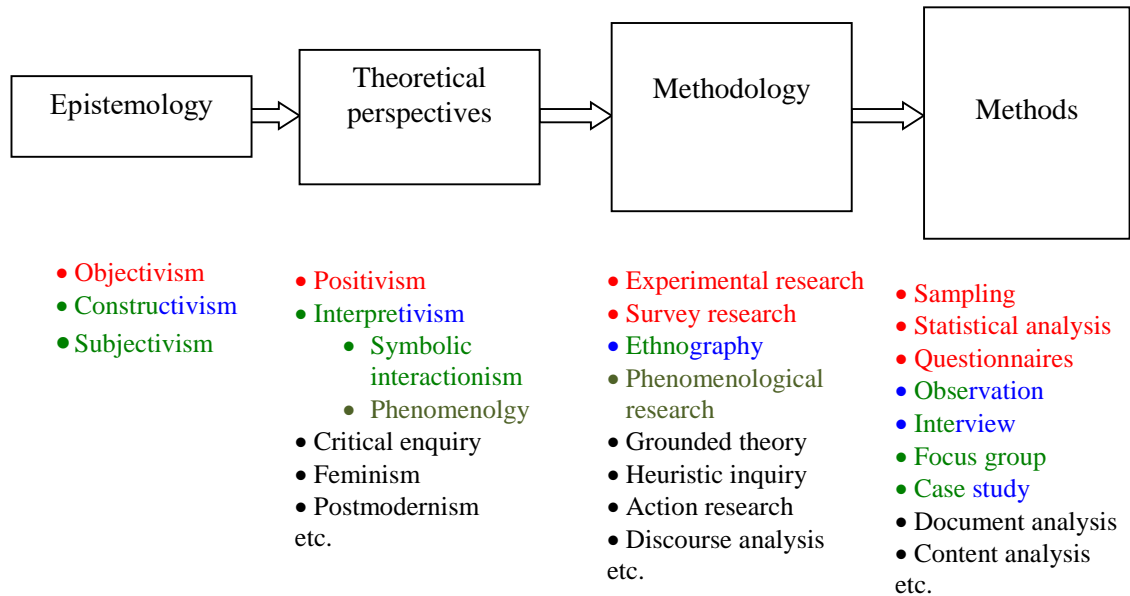


Figure 4.2: Colour-coded perceptions of associations.

By adopting a constructivist epistemology, an interpretivist stance will be taken. The '[interpretive] researcher's aim is to explore perspectives and shared meanings and to develop insights into situations, e.g. school, classrooms' (Wellington 2000:16). In this case the 'situation' is the urban science teacher's locale.

#### 4.1.1 Constructivism

Constructivism, as the name suggests, is concerned with the construction of knowledge; knowledge is not something to be discovered; rather, knowledge is meaning constructed by subjects. The construction of knowledge incorporates human perception and social experience. Therefore, understanding 'reality' involves a network of observable data and engagement with that data. In this research, a constructivist epistemology will be adopted to understand 'urban science teachers' and the reasons why they stay in/leave post. Teachers were observed and interviewed to provide the first layer of knowledge. This provided a platform to then construct further knowledge of the 'urban science teacher' experience.

##### 4.1.1.1 Interpretivism

From my epistemological position, I adopt an interpretivist stance; interpretivism, again indicated by the name, entails interpretation of the study data, which for me is the obvious stance given my understanding of constructivism. The observation and interview data is

interpreted, looking beyond data content. To understand ‘urban science teachers’, the researcher and the participants must interpret the lived experience of those teachers. The interpretivist approach can best be achieved through certain methodologies; in this study I argue that I am ethnographically inspired.

#### **4.1.1.1 Ethnographic inspiration**

Ethnography is the study of individuals and/or groups of individuals within a specific social context. Ethnography can be defined in various ways (Atkinson and Hammersley 2007) which can lead to confusion and contestation. In order to avoid such disaccord, I do not claim to have conducted an ethnographic study, nor do I claim to have adopted ethnographic methods (ethnomethodology (Cohen et al. 2007)). I do, however, claim to have been ethnographically inspired. Over an extended period of time, I, the researcher, participated in urban science teachers’ lives. I watched, listened and asked what was happening in one urban science department. In my view, such a methodology of data collection can only be achieved through a case study approach.

#### **4.1.1.2 Case study approach**

In order to explore the essence of working as an urban science teacher, I took the decision to look at a small number of teachers in one school using a case study approach. I felt that drawing on a larger number of schools would have resulted in a more superficial understanding of the teachers’ lives. Additionally, when exploring the possibility of working with more than one case study school, it became difficult to identify schools that could be considered to be comparable: it is for these reasons that just one case study school was chosen.

Referring back to Figure 4.2, case study research falls under the constructivist paradigm, with an interpretivist theoretical perspective. A case study is considered to be an incidence in action, where the incidence is of a bounded system, such as a child, clique, class, school or community (Cohen et al. 2007:253). Cohen et al. suggest that case studies provide ‘a unique example of real people in real situations’ (ibid). This is exactly what my study does, focusing on real teachers in a real school. The previous sections justify my rationale for the adoption of such an approach; however, a case study will also provide the rich qualitative data I desire. Cohen et al. (2007) draw upon Hitchcock and Hughes (1995): ‘[the] case study approach is particularly valuable when the researcher has little control

over events' (ibid), due to the temporal nature of the case. My data shows that I had very little control over the dynamic of the urban science department that I was studying.

Focusing on a small number of teachers allows me to draw out their stories and notions of identity. Drake et al. (2001) relate teacher learning to identity: 'what and how teachers learn is also shaped by and situated in their *identities*' (p.2); they define identity in terms of 'sense of self as well as their knowledge and beliefs, dispositions, interests and orientation towards work and change' (ibid). Following Beijaard (1995), Drake et al. (2001) highlight the importance of subject matter in teachers' identities, in this case, that of science. What particularly interests me about their approach is their use of 'storied identities': 'stories, as lived and told by teachers, serve as a lens through which they understand themselves personally and professionally' (ibid). I felt this approach needed to feature in my research method in order that I can fully understand the lives of my participants. As Drake et al. (2001) argue, 'Narrative allows researchers to understand beliefs as interconnected and interrelated systems, rather than as isolated fragments' (p.3). Life history research has been used since the early 1990s (Goodson 1991, 1992; MacLure 1993; Woods 1993), and more recently (Yang and Zhang 2009; Harnett 2010). Life histories/narratives will be further expanded in section 4.17.

## 4.2 Choosing the School

I wanted to study a 'typical' urban school, similar to those I once taught in and those involved in our PGCE partnership.<sup>8</sup> The reason for this was that experience, in addition to research, has taught me that the experiences of such science teachers are worthy of study; the individual experiences are complex and the departments can be volatile with respect to staffing. That said, I also wanted the school to be new to me, so I was approaching as a 'researcher', not as an ex-colleague or PGCE tutor. I felt that this would allow me to view what I saw and heard impartially; I did not want prior/existing relations to cloud the research. Not surprisingly, employing this condition did narrow the field. I then applied the further logistical condition that I needed to be able to visit the school regularly and at short notice. These conditions reduced the pool of possible schools that I could work with which resulted in an opportunistic and pragmatic sample selection. Cohen et al. (2007) refer to this as convenience sampling (pp.113–114). Ultimately, my search narrowed to one setting as the most appropriate case study school. I only

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<sup>8</sup> Post Graduate Certificate in Education programme; schools linked with my own teaching institution.

approached this school; I did not want to approach more than one school at a time. If access had not been gained I would then have approached another school.

### 4.3 Description of the School

To preserve the anonymity of participants, the school is referred to as ‘City School’. As discussed above, at the time the data collection commenced, I considered ‘City School’ to be a typical urban school (see Chapter 2). The school was a mixed-sex, comprehensive, community, 11–19 school, located in an inner London borough. It had 1,400 students on its roll from a diverse range of ethnic backgrounds. The most recent Ofsted report on the school, at the start of the data collection, recognised that about one-third of the students did not speak English as their first language, the proportion of students with special educational needs was slightly above average,<sup>9</sup> and the proportion of students with a statement of special educational needs was almost double the national average.<sup>10</sup> An above-average proportion of students were eligible for free school meals (FSM).<sup>11</sup> I cannot quote directly from the school’s own website as it would then be possible to identify it; however, to some extent, the mission statement and values might just as well be for any of a large number of schools, focusing on progress, belonging and empowerment.

### 4.4 Gaining Access

Having identified a possible case study school, I contacted Jane,<sup>12</sup> the acting head of science (HoS), via e-mail in March 2008, introducing myself and my research proposal. She replied quickly but it took a further two months, several e-mails and two phone calls to arrange a meeting to discuss my ideas. Ethical approval was also secured in May 2008. The initial meeting lasted only 30 minutes, as this was all the time Jane had available; however, she was keen to be involved and happy to put the proposal to her department, asking for participant volunteers. Jane presented the ideas at the next science department meeting and she reported that all the team were happy to be involved.

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<sup>9</sup> National average just under 20%.

<sup>10</sup> National average just over 2.5%.

<sup>11</sup> National average just over 14%.

<sup>12</sup> All names are participant-chosen pseudonyms.

The next step was to approach the headteacher and gain permission to conduct my research in their school. This approval was initially done via letter, delivered by hand, and then followed up by numerous phone calls and e-mails. Phone calls and e-mails were all channelled through the head's personal assistant and the department administration support, making the process very cumbersome. I could not start data collection without the head's permission, so data collection was delayed while permission was sought. Some teachers agreed to continue informal discussions with me prior to official permission being granted, but I did delay observations as I felt it would be inappropriate to conduct them until the head had officially sanctioned the study. Permission was finally granted at the end of June 2008. This permission came orally, via the department administration, not in formal written form as I had hoped for, but it was permission nonetheless.

#### **4.5 Selecting Participants**

As stated above, Jane informed me that all 12 teachers in the department were keen to hear about my project and be involved; however, five teachers were selected. The total of five was arrived at for various reasons. Primarily, I felt that 12 teachers would be too many for what I wanted to achieve. I wanted to develop deep understanding using in-depth interviews. I believe that conducting up to 12 interviews in each round would have limited the relationships I could develop with each participant. With this in mind, two criteria were employed; firstly, Jane identified some of the 12 as being overstretched already and did not want to add to their commitments. While these individuals might arguably have been valuable participants, I wanted to honour Jane's professional judgement. Jane agreed to be one of the participants; we then jointly identified four others who would represent the range of science teachers in her department. The selection enabled access to different teacher characteristics: age, experience, ethnicity and gender. The five teachers were: Jane (acting HoS), Bob, John, Brianne and Louise. These names are pseudonyms, chosen by the participants to preserve anonymity, and are gender consistent. The participants are discussed in detail in section 4.18.

#### **4.6 Data Collection**

##### ***4.6.1 Choosing appropriate methods***

Researchers choose methods to fit the research goal (see Figure 4.2). To gather large amounts of numerical data, a survey might be used to allow for statistical analysis; to



gather richer detail, interviews can provide a more appropriate tool. The choice of research method has been discussed by Sturman and Taggart (2008). They compared the results of questionnaires and telephone interviews. One of their main findings was that interview responses were more decisive and the ‘unsure/not sure/don’t know’ option was used less often than in the questionnaires. Sturman and Taggart cite Dillman et al. (1996) to explain these differences. Dillman et al. discuss mode effects – the effect of the mode of data collection has on the data collected. For example, the impact of the interviewer’s presence and their reaction to responses can affect the outcome. Participants may desire to please the interviewer and regulate their replies accordingly; and yet, conversely, the interviewer may be able to draw more from participants who give a very brief reply.

It was this notion of mode effect of which I was conscious when deciding to use interviews as my main source of data collection. Significantly, my interviews were conducted as part of a longitudinal study and the nature of the interviews changed over time (see section 4.9.3).

#### **4.6.2 Observations**

When I first approached the study, I planned to take an ethnographic approach, spending one day a week in a school science department, becoming part of the furniture, a member of the team, similar to the experiences of Burn et al. (2007). However, after spending a day in school observing with four of the participants for the pilot study, I felt that talking to the teachers and interviewing them would be more valuable, because much of what I observed was useful to give an initial impression of the participants but did not offer me a lens on how the teachers felt about their views and experiences. Also, logistically, I found that I simply did not have the time to spend a day per week in a school alongside the demands of my role as a lecturer in science education.

During the pilot observation, I shadowed the teachers for the entire day, from the moment they arrived in the school building until the time they left. I shadowed four of the five teachers, as Bob was unavailable, as he was attending a funeral on the day we had agreed for the observation. I did not rearrange the observation because, as described above, observations were not providing the desired data. Naturally, some individuals had longer days than others. I asked the teachers ‘to carry on as if I wasn’t there’, and do all the activities they would normally do. It is difficult to be a ‘fly on the wall’, and I recognise

that an observer's presence will affect what is observed. Cohen et al. (2007:409) refer to this as 'reactivity', where the observed react differently as an effect of being observed.

During the observation day, I watched lessons, attended meetings, took part in break/lunch duties and did some photocopying. With the teachers' agreement, I did not want to let them out of my sight, so I even went as far as the portaloo when they needed a comfort break. The rationale for this approach was because, as experience has taught me, if they just 'popped' to the toilet they would often get caught up in something that I would miss, and then I would not see a true reflection of their full day.

I chose to make pen and paper field notes throughout the day as this felt less obtrusive than video recording; however, as mentioned above, the observer's presence is further emphasised by note taking. If I did not take notes I felt I would forget too much that had happened. I did not have a rigid structure for the observations; I felt the peripatetic nature of the day, moving around the school, would not afford such a regulated observation schedule. When static, I recorded the nature of the tasks at hand and those interacted with. In the margin, I also recorded points to follow up at later interview points, such as who an individual was or why a certain event might have taken place or what the follow to an incident would be. At the end of the day I also revisited my fast written notes to ensure they would be coherent when revisited at a subsequent point in time. I also, on occasion, added events that had taken place when I had not been with my field notes, at lunchtimes, for example.

Each day gave me a useful insight into the four individual teachers I observed: the length of their day, their work ethic and effectiveness. However, a full day's observation lasted a minimum of eight hours: while the observations helped to address my first research question, I felt eight hours was a lot of time which could not be justified, as the observations swiftly led to data saturation. In agreement with my supervisor, I decided to continue with interviews over observations.

#### **4.6.3 Interviews**

For the first round of interviews, in 2008, I adopted the methods of Daley et al. (2005), who used a five-minute speech sample (FMSS) technique. They asked interviewees to talk for five minutes, uninterrupted, on a given topic. I asked the five teachers to talk for

five minutes, without interruption or prompting, about their experiences of working as an urban science teacher.

I chose this method for a number of reasons; firstly, as a novice interviewer I felt it would be a good way of allowing participants to talk uninterrupted, enabling me to focus on what they had to say, rather than the questions I asked and how I interacted with the responses given. Secondly, as I did not know the participants, I believed (naively) that this approach would make it easier for interviewees to talk to me, as they were only answering one question. Thirdly, on a pragmatic note, it was an efficient way of fitting in a round on interviews before the end of the summer term. And finally, I had expected to be able to collect data and analyse statistically, like Daley (2005), for example, the number of positive and negative utterances, and then positive and negatives utterances about specific topics, such as pupils and leadership.

This method did allow me to audio-record and subsequently transcribe five interviews in time for analysis over the summer (meeting my third reason, as described above). However, the other three reasons for choosing the FMSS methods were not realised, and I did not continue to use this method in subsequent interview rounds. Some of the teachers found it hard to get going and wanted to be prompted or seemed to want a dialogue. Indeed, not knowing the participants made the FMSS talk more awkward, not less. I felt my skills as an interviewer could have brought more out, by probing the answers that were given and exploring more what was said. Also, when some of the teachers started to talk, they could not stop (see Table 4.1 below: John, Jane and Brianne all spoke for more than ten minutes) and often seemed to lose focus. FMSS interview lengths are shown in Table 4.1 below. Therefore, the FMSS was not used for the subsequent interview rounds.

Table 4.1: Length of participants' FMSS interviews

Teacher	Length of FMSS interview
Louise	06mins 31sec
John	11mins 45secs
Jane	10mins 53secs
Bob	08mins 53secs
Brianne	14mins 28secs

The next four rounds of interviews were constrained by how much time the teachers wanted to talk to me, which ranged from 15 minutes to over an hour: actual times are shown in Table 4.2 below. In total, 22 interviews were conducted, resulting in over 12

hours of dialogue. This approach led to much richer data and a deeper understanding of the individuals and their stories. The timing of each interview can be seen in the research timetable (Table 4.4). The timings of the interviews were dependent on both the participants' and my availability (see the reflection section (4.10)).

Table 4.2: Length of all participant interviews

Teacher	Interview	Length of interview
Louise	1	06mins 31secs
	2	50mins 30secs
	3	40mins 35secs
	5	30mins 01secs + 03mins 07secs <sup>13</sup>
John	1	11mins 45secs
	2	45mins 03secs
	3	46mins 41secs
	4	22mins 16secs
	5	33mins 27secs
Jane	1	10mins 53secs
	2	57mins 31secs + 05mins 20secs <sup>14</sup>
	3	32mins 05secs
	4	46mins 45secs
	5	29mins 36secs
Bob	1	08mins 53secs
	2	47mins 13secs
	3	40mins 19secs
	4	36mins 41secs
	5	14mins 40secs <sup>15</sup>
Brianne	1	14mins 28secs
	2	58mins 18secs
	5	28mins 39secs

Having reflected on my FMSS experience with Round 1, and discussed this with my supervisor, Round 2 interviews were semi-structured, following an interview schedule (see Appendix A). I decided to develop an interview schedule for three main reasons. First, I wanted to follow up on aspects the participants had mentioned in Round 1, such as aspects of the role they enjoyed and reflections on the department dynamic. Second, I wanted to introduce ideas from research that had not dominated in Round 1, e.g. reasons for entering the profession and their work-life balance. Thirdly, as discussed above, the early stage of our research relationship meant I was not yet confident enough in our relationship to feel we could just talk freely from one opening question. However, I consider the interviews semi-structured, as I allowed the teachers to talk around questions

<sup>13</sup> Recording restarted as participant continued to talk.

<sup>14</sup> Recording restarted as participant continued to talk.

<sup>15</sup> Bob missed this interview when it was first arranged, then offered to see me at a time when he was clearly too busy to talk.

and to bring in aspects of their experiences I had not planned to discuss. I therefore consider my Round 2 interview schedule to be a guide for discussion.

In Round 3, the interviews became further deconstructed as I found the schedule used Round 2 limiting and Round 3 was guided by interview prompts, which can be found in Appendix B. I would compare these prompts to Spradley's (1979) grand tour questions, putting the participants at ease and encouraging them to talk expansively. I adopted a more deconstructed approach, using prompts rather than specific questions, as I found the schedule of Round 2 too constraining: both the participants and I kept referring to the question sheet to see if we were on track. When listening back to the interviews, I felt that the 'checking of the schedule' interrupted the conversational flow and limited the scope of what was shared. Also, as I become more accomplished in my interviewing skills and the research relationship developed, the interview process needed less written formal structure, because I realised that I had internalised key themes from the literature and was becoming immersed in the teachers' lives and narratives to such an extent that prompts were naturally 'in my head'. For instance, I did not need written prompts to remind me to follow up on themes raised in previous interviews, as these were 'in my head' already.

In hindsight, I started with too little structure to the interviews; the participants and I knew very little of each other and needed a more scaffolded approach. Reflection resulted in the introduction of a schedule, after which rapport improved and the schedule became redundant.

As has been described above, each round of interviews had a different format. I would characterise Rounds 4 and 5 as more like conversations than interviews. The longitudinal timeframe of the study meant that more meaningful relationships had been forged and my awareness of the key themes and my guiding research questions became increasingly cemented. I felt trusted by the participants, given the very personal stories they shared, and therefore considered that having an interview schedule would have made the experience unnaturally stilted.

This does not mean I did not prepare for these interviews. In advance of the Round 4 interviews I listened to the Round 3 interviews and made extensive notes. This provided a recap of what participants had said and the context of the previous time we had spoken. I therefore went to each interview with an agenda in my head of the aspects I wanted to revisit, both on a personal level, to show them I had been listening to their stories

encouraging them to continue to share, but also to keep alive topic themes of the research, such as support, work-life balance and department dynamics. In addition, I also wanted to discuss Day et al.'s (2006a) identity dimensions with the participants, to see if the teachers felt the dimensions had the resonance I thought they had with their own reflections.

Similarly, for Round 5, I listened to the previous round before the interviews; however, this meant returning to Round 2 for Brianne and Round 3 for Louise (see Table 4.4 below), as they had been unable to contribute in some rounds. I was delighted to secure all five participants for the final interview. As this was the final interview, in addition to my evolving mental agenda that I brought to the interview, as discussed for Round 4 above, I was also keen to ask participants to reflect over the time of the study, asking what and how had things changed for them in this time. I also wanted to pull together aspects from each of the previous interviews, which were forming the topic themes I was developing, and so discuss the topic in relation to my analytical tool of Day et al.'s (2006a) identity dimensions.

This ethnographically inspired study is a longitudinal qualitative piece of case study research, focusing on one urban school science department and five participant teachers over four years. In those four years, all six of us involved have been on a journey and have shared those experiences to begin to tell the rich and complex story of what it means to be an urban science teacher.

#### **4.6.4 *Diaries***

Inspired by the work of Olmedo (1997), who asked student teachers to keep a journal of their experiences during their pre-service courses, I also asked the participant teachers to keep diaries. Olmedo (1997) found the use of journals a rich source of reflections: 'Journals, in which teachers document their classroom experiences and interpretations of these, can be particularly valuable sources for understanding how teachers view the educational reality of the classroom and their place in it' (p.249). Conversely, I found diaries less than fruitful.

When I first met the participants I explained that I wanted to explore and understand what it meant to be an urban science teacher: that I wanted to do this through observing and interviewing them. I suggested that there might be occasions when I was not in school

when teachers had wished I had been there to observe a certain incident. The teachers agreed with this notion and welcomed the idea of keeping a diary for such reflections. However, it quickly became apparent they were not being successfully used.

Table 4.3: Participants' experiences with their diaries

Participant	Diary outcome
Brianne	Diary unused, then lost
Louise	Returned diary unused
Jane	Diary unused, then lost
Bob	Diary unused, then lost
John	Returned diary, contained factual log of lessons he had taught, occasional brief comment about pupil behaviour

When I asked the teachers about using the diaries, they said they did not have time to write reflections and would prefer to describe such incidents to me when we met face-to-face. I still feel that this data source would have been useful; however, I did not want to pressure the busy participants any further. The students in Olmedo's (1997) work may have felt some covert need to complete diaries. Being asked to complete a diary by an assessing tutor is a very different scenario from my research setting; Olmedo's (1997) students might have been concerned about the implication of not completing their diaries with respect to passing the programme. My participants were essentially taking part in the research voluntarily. Nor could I offer financial incentives for using the diary, which have proved successful for others, including the Office of National Statistics (Simmons and Wilmot 2004).

#### 4.7 Research Timetable

As stated above, the data was collected over a period of three and a half years; the detail of the data collection sequence can be seen in Table 4.4 below.

Table 4.4: Timetable of data collected for each participant

	Date	Data collected				
Round 1	July 2008 (pilot study)	Four day-long observations <sup>16</sup>	John Jane Louise Brianne	Five FMSS interviews (see Table 4.3)	John Jane Louise Brianne Bob	Dairies trialled (see Table 4.1)
Round 2	June 2009	Five interviews	John Jane Louise Brianne Bob			
Round 3	Spring 2011 <sup>17</sup>	Four interviews <sup>18</sup>	John Jane Louise Bob			
Round 4	July 2011	Three interviews <sup>19</sup>	John Jane Bob			
Round 5	Nov-Dec 2011	Five interviews <sup>20</sup>	John Jane Louise Brianne Bob			

<sup>16</sup> Bob cancelled his observation day as he had to attend a funeral. This was not rearranged (see section 4.6.2).

<sup>17</sup> The large time gap was a consequence of taking 12 months maternity leave.

<sup>18</sup> Brianne and Louise had left the school; I was able to interview Louise, who had moved to a local school, but Brianne had not replied to my interview request.

<sup>19</sup> Neither Brianne nor Louise were interviewed on this occasion.

<sup>20</sup> I managed to get all five original participants to agree to a final interview, despite three participants having left the school.



#### 4.8 Experiential Data

The teachers had agreed to be observed or interviewed on many occasions and it was not unheard of for planned meetings to be forgotten, postponed, interrupted or cut short by other, more pressing, issues. Sometimes the interruption was brief and audio-recorded; a pupil dropping off homework, a door opening and the visitor changing their mind. On other occasions the interruption was a member of staff coming to discuss a school-related matter, or entering the space *en route* to another location; these interruptions were not recorded. However, these incidents, in themselves, add to the picture evolving of the demands on the teachers' time.

#### 4.9 Data Analysis

Following discussions with my supervisor, I successfully applied for seedcorn funding to have all the interview data transcribed. Once all 22 interviews were transcribed, I was able to listen to and read the data simultaneously. This multisensory approach, along with the initial day-long observations, enabled me to build a picture of each participant teacher. During the data collection period, my concurrent literature search identified the VITAE project and Day et al.'s (2006b) identity dimensions. My data mapped well on to these dimensions and so the data gave rise to the analytical tool.

First-level analysis, immersion in the data, also enabled me to write a summary of each interview round; these summaries showed that a number of themes were reoccurring in the interview data, such as workload, school management and work-life balance. I include the summary for Round 1 as an example of this first-level analysis (see Appendix C).

In the second-level analysis, I returned to the interview transcripts and coded the dialogue. I started by using Nvivo to code the first round of interviews. In Appendix D I have included some example data of my Nvivo coding.<sup>21</sup> While my own colleagues and other researchers are very positive about the benefits of using Nvivo, I found myself jarring with the process and not progressing as I desired. I am fully prepared to admit that with continued usage I might have felt more empowered to use the tool; however, at the time and after discussion with my current supervisor, I decided to change my analytical process.

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<sup>21</sup> Notice that 'Bob' does not appear on the Nvivo data; initially he was referred to as Chester, but later requested to be identified as Bob.

Given that my tool of analysis was Day et al.'s (2006a) identity dimensions, I used those as my starting point for analysis. I printed out the transcripts for each interview, and read them. I started with Round 1, and read each teacher in turn, alphabetically. Then I continued with Round 2, and so on, always reading each teacher in the same order for each round. As I read, I used three different coloured highlighters for the three identity dimensions. Utterances I considered to relate to the school context – the situated dimension – were highlighted in yellow. Those comments about the participants' individual lives – the personal dimension – were highlighted in pink. Remarks on educational issues and policies – the professional dimension – were highlighted in orange. I also used a green highlighter to identify salient points that did not, at the second-level analysis, fit into one of the three identity dimensions. Scanned examples of these annotated transcripts can be found in Appendix E. I have obviously only selected a tiny sample of the data. Appendix E includes an excerpt from Jane's Round 1 interview, Bob's Round 2 and John's Round 4 interview. I chose these pages to share for two reasons: firstly, they show clearly the highlighting process I have described. Secondly, these pages do not include any participant-sensitive data or compromises of anonymity.

The third-level analysis was to assign themes directly on to the printed transcripts for each of the highlighted sections. Also, by engaging with the data repeatedly, some dimension identifications were reassigned or new dimension sections were identified. Example themes can also be seen on the scans in Appendix E, where I have made annotations by hand in the margins of the transcripts (e.g. pragmatics and support).

The next step in the process was to draw the themes together in a new document. From the handwritten notes in the margin transcriptions I compiled a list of themes across all the teachers in each interview round. In Appendix F I have included the themes from the Round 4 interviews. Next, I combined all themes for all rounds across all four highlighted aspects. Table 4.5 below shows the number of subthemes within each main theme.

Table 4.5: Number of subthemes within each dimension theme

Colour	Theme type	Number of subthemes within each theme
Orange	Professional themes	14, e.g. Ofsted or government policy
Yellow	Situated themes	59, e.g. turnover or school management
Pink	Personal themes	39, e.g. family or health

Colour	Theme type	Number of subthemes within each theme
Green	Other themes	15, motivations for entering the profession or life history

The final step was to look for repetitions, similarities and connections between subthemes, in order to develop a more coherent picture of each dimension themes. Appendix G shows the ungrouped and subsequent grouped subthemes for the personal dimension, where the 39 subthemes have been collapsed to eight grouped subthemes. This smaller number of grouped subthemes provided the writing frame for the development of Findings I–III, Chapters 5–7.

As I have described, my approach to the data became theory-driven. As I listened to the teachers and subsequently returned the interviews, I found the data aligned with the identity domains of the VITAE project (Day et al. 2006b). By coding the teachers' reflections, the codes could be assigned to one of the three domains: professional, situated and personal identity. For example, comments made about the teachers' family lives were consider to lie within the personal identity domain, while those comments about support within the school were assigned to the situated domain. There were some assigned codes/emergent themes that I felt were located outside the three identity dimensions. As these emergent themes are, in essence, concerned with the methodological experience rather than the participants' individual identity dimensions, I see them as preceding the thematic findings of Chapter 5, so discuss them in this chapter on methods.

While my description of the analytical process above is presented as a stepwise approach, that does not mean coding was without its challenges. Working as an individual researcher makes it difficult to share coding complexities. You can see from Appendix E that there are occasions where I struggled to assign a colour/dimension theme to sections of transcript. For example, when Bob discusses what keeps him in post, he moves between codes; these slippages between the situated and the personal utterances adds to the complicated picture being portrayed of these teachers.

Some coding struggles were resolved by revisiting the data repeatedly and seeing the context of the point made and therefore deciding that a theme might be, for instance, more about a teacher's situated story than personal story, or vice versa. For example, Jane's reflections about her pregnancy originally appear to be concerned with her personal dimension, but with continued focus on Jane's story it became clear to me that it is more

about her situated self, because the story is about the school's/her colleagues' response to her situation. Resolution also came from discussing ideas with supervisors and colleagues. I should also acknowledge I did not feel the need to resolve all coding difficulties. My work is qualitative, not quantitative; I was not statically analysing the coding data, rather I was using the coded subthemes to understand the experiences of urban science teachers and the emerging 'messiness' of the situation.

#### **4.9.1 *Initial responses to questions***

Often, teachers' initial and instinctive response to a question was quite revealing. When I asked the initial FMSS question (Daley et al. 2005) through to the later grand tour questions (Spradley 1979), I found their initial replies rather curious. Their first thought was often blurted out and encapsulated their immediate reaction to the question. The participants would typically say: 'it's mad', 'it's horrendous', 'a car crash', 'hard', 'a challenge', 'a lot of work', 'busy', 'tough', 'a freak show', 'Christ'. What I found interesting about these first responses is that they were the first thing that sprang to mind and are, broadly speaking, quite negative. However, since a qualitative interview allows one to explore deeper, a complex response evolves. Participants continue by justifying the negative response but also reflecting more positively on other aspects on the question.

Similarly, non-verbal cues (Mehrabian 1977) appeared to express similar curiosities. Examples of non-verbal cues included silence, sighs, laughter and raised eyebrows. These actions offered some indication of teachers' instinctive feelings; however, I found that more complex responses lay beneath the surface. To access these layers, the participants needed more than just time to think. Rowe's (1972) increased wait time works well in certain situations and, indeed, using the FMSS did afford some richness of data. However, asking teachers to talk for five minutes, without intervention, often led to awkward silences or missed opportunities to focus on specific areas. To fully explore teachers' views I found it necessary to pursue both their verbal and non-verbal responses. I encouraged participants to say more, with positive reinforcement, my own non-verbal affirmative cues and prompt questions; recommendations consistent with successful interview practice (Cohen et al. 2007).

Such probing was particularly warranted in the case of John. His story was complex, and he was in a vulnerable position: he was at risk of revealing the school's perception of him, which was less than favourable. It would be easy to have taken his answers at face value, but gentle persistence revealed a more complex set of issues. Jane was the opposite:

she quickly shared her final position, and it was my role to unpick her story to leading to that point.

#### 4.9.2 Overall response to interviews

Teachers' sentiments towards being interviewed appeared to be reflected in three ways: the length of time they spoke for, their agreement to be interviewed again and what they actually said towards the end of some interviews.

As the first interview used the FMSS approach, teachers were asked to give five minutes of their time and an alarm was set to indicate five minutes, but all chose to speak for longer, as seen in Table 4.1. As the FMSS approach was abandoned for subsequent interviews, the duration was not stipulated; I arranged to speak to teachers when they felt they had time. As I did not want to put time demands on busy teachers, I was quite vague about interview length. However, as can be seen from Table 4.2, the busy teachers continued to be very generous with their time. When arranging the interviews, teachers would ask how much time I needed, and they regularly claimed they had very little time to talk to me. However, as can be seen from these tables, once a time had been arranged to meet, if the teachers had the time, i.e. no lesson to teach, they would delay other tasks to talk to me, suggesting they were enjoying and/or valuing talking to me and sharing their experiences.

Turning to look at the content of the teachers' closing responses, they not only agreed to remain part of the research and be interviewed again, but also expressed positivity towards the experience. I often felt as if the teachers found the process quite cathartic in itself, that this was a rare opportunity for them to sit still and think about their lives and their roles and welcomed the opportunity to be listened to:

I've had my moan haven't I ... yeah, it tends to be like self-flagellation at times, but yes, yeah, it is good to be able to sit and kind of ... voice it (Bob 3).

I quite like, you know, I quite like sitting around and thinking ... of vague, vaguely unanswerable questions (Bob 4).

John even describes it as 'actually quite good' and that it 'would be lovely' to talk again (John 4).

Louise showed her commitment by agreeing to come to my institution for the final interview, so as to ensure I had a complete data set, and closed with the comments:

I don't mind talking to you ... it's like a, I can have a vent to someone who's impartial (Louise 5).

Similarly, Brianne agreed to take part in the final interview by giving up and meeting in her own time. Jane offered her time after the final interview, saying I could always come back to her if I needed to. I am, of course, grateful to the teachers for all their time; however, I do feel their actions and words reflect that they too felt commitment to and enjoyment of the study.

#### **4.9.3 Interview content themes**

Having immersed myself in the data, I have become aware that what teachers chose to talk about changed over time. When I first asked the teachers to reflect on their role as an urban science teacher, they found it very difficult to focus on themselves as teachers. They were very pupil-focused and often drifted to talk about urban pupils; they could be redirected but would return again to their pupils. I wanted to hear about them as teachers and how they responded to the pupils; some could not quite understand what I was asking, as if to suggest the concept of considering themselves as urban science teachers was somewhat alien to them.

Bob, in his second interview, even suggested that I might 'talk to the kids' in order to understand the teachers' lives. While interviewing urban pupils would be interesting, it would not contribute to answering my research questions, of understanding the experience of those working as urban science teachers. In later interviews, teachers moved on from speaking about pupils to broader school issues; then, again, with a developed participant–researcher relationship, more personal reflections emerged.

#### **4.10 Reflections**

My supervision history can at best be described as unfortunate; one supervisor died, one moved to another university overseas, another to a different UK university, one took maternity leave for a year, one was a visiting academic and not regularly in college. I feel I have coped with this lack of consistency in supervision; however, I am aware of the impact that it had on my progress. Additionally, I became pregnant with twins during the

course of my study and took 12 months maternity leave; returning to work part-time and balancing the demands of work and family life have impacted on my ability to complete this PhD. Given the circumstances, I am pleased with what I have achieved.

As discussed above, I chose the school so as to be known only in my role as researcher, not as an ex-colleague or PGCE tutor. However, science teaching is a small world, and once in the school I met two of the science teachers I visited during their PGCE when I was covering for a colleague's sabbatical at another institution. I played a very small role in their PGCE year and I certainly did not want to start all over again finding another school, but it does show that it is extremely difficult to be seen solely as a researcher. Additionally, I want to acknowledge that, over the extended time of data collection, the relationships between researcher and participants evolved (see the reflexivity section (4.12)).

#### **4.11 Ethics**

Ethical approval was sought and approved by King's College London ethics panel in May 2008. The full ethical approval number is REP(EM)/07/08-89. All participants were made fully aware of the study and signed consent forms before being interviewed. At each interview round, I asked whether participants were content to remain part of the study and what level of commitment they felt they could offer. All research was carried out in accordance with British Educational Research Association (BERA) guidelines (BERA 2011). Ethical practice was also observed by making use of a confidentiality agreement with those who transcribed interviews and carried out proofreading.

Ethical awareness has become prevalent within social science research; while it has arisen from the medical model, it has also evolved to suit this new context. Superficially, one might consider that there is little cause for ethical consideration within the study, but experience of others suggests otherwise. Brooks et al. (2014) have recently published a book on ethics and education research. While initial research proposals indicate a project/study to be low risk, my own ethical consciousness is derived from the involvement of five participants within a longitudinal study, as is discussed in the reflexivity section below.

#### **4.12 Reflexivity: Personal Stories and Relationships**

During the data collection period, there were no inappropriate disclosures; however, I was fully aware that, given the extended time of data collection, deeper relationships developed. Many life-changing experiences took place both for the participants and myself, such as getting married, having children, moving jobs, separating from partners, or moving house. All of these experiences were shared during our conversations. Helms (1998) discussed issues regarding her role as the researcher. As a university researcher she felt herself to be ‘an outsider’, which could introduce issues of power relations and subsequent concern pertaining to teacher autonomy and what teachers wish to share. In my experience, the duration of longitudinal study enabled such barriers to be eroded, and teachers were more than happy to share more than I expected of their personal stories.

The teachers all agreed to be part of the research and signed a consent form to that effect. As part of the agreement, anonymity was assured, the school name was changed and the teachers chose their own pseudonyms. However, as they talked they shared various personal details about their lives; these events influence who they are and therefore the decisions they make. This does make all that they share part of the data set; however, I am concerned that stories are very personal and specific, and could compromise anonymity. If I do not include the data I lack evidence for my claims, but I need to preserve confidentiality and anonymity, so on some occasions, I did intentionally smudge some very specific features and boundaries. I am very aware, and grateful, that the teachers were so honest in what they chose to share and with time did not hold anything back; while this places me in a very privileged position, I am conscious of wishing to respect this. Such ‘shifted boundaries’ were discussed by Rinke and Mawhinney (2014). I am also conscious that I am not in a position to respond to some of the content. I am not a counsellor; the teachers chose to share as they saw fit. When analysing some of the data, I constantly needed to remind myself of this fact.

Some used slang and profanity in their dialogue; I felt this expressed their strength of conviction for what they said and some of who they were. For this reason I have chosen to leave these words in if they occur in a quote I used. I also feel that the way in which they talked evolves with time; in the first FMSS interview, the language is quite formal and considered. As time progressed, the teachers spoke in a different way, more casually and relaxed, in both tone and language.



Part of the reason I feel the teachers were so open is due to the longitudinal nature of the study. Collecting data over more than three years led to relationships evolving. Not only was time shared, but so were experiences; these might be school-related from one interview to the next, whether to resign or not, or they might be outside the school's remit. Louise and I both moved house during the data collection period; Jane, Bob and I all had babies within that time, and Jane and I were both working mothers. Experiencing the same life event at similar times made the relationships stronger, and I feel that even though I only met with the teachers as part of the data collection process, they began to trust me more and open up in our conversations. Reay (1996) questions whether she was 'conflating' the many varied experiences of her participants with her own (p.65). Similarly, I walk the fine line she discusses; I believe the relationships grew, enabling the teachers to be more open; however, I also believe this did not alter the perceptions they shared nor what I heard.

While I felt I had very little in common with some of the teachers, merely remaining in touch with them and remembering details of prior conversations about their lives made them feel listened to and therefore more inclined to continue to share their thoughts. The result of developing these relationships has been very rich data; this was one of my research intentions, but as mentioned above, ethically, it could now be considered to be a mixed blessing.

#### **4.13 Limitations**

Case study research can always be accused of not being generalisable (Nisbet and Watt, cited in Cohen et al. 2007:256). I acknowledge that by only looking at one school and five teachers, I cannot make generalisations about all urban science teachers. However, what I can do is explore the experiences of these teachers and suggest ways we might look to widen the applicability of my findings. The limitation I acknowledge here is concerned with adopting a case study approach and focusing on a small number of participant teachers. There are a number of further limitations that have subsequently arisen; these will be discussed in the final chapter of this thesis, in section 8.7.

#### **4.14 Reliability**

Reliability in qualitative research is contested (Golafshani 2003) and some prefer such terms as 'credibility, dependability or consistency' (Lincoln and Guba 1985, cited in

Cohen et al. 2007). In a sense, the reliability of my research is less contested in Round 1 of the interviews. As part of the FMSS, each participant was given the same starting prompt; they were all asked to talk about their experiences of working as an urban science teacher. Similarly, they were all told that I would start a timer and audio-record their replies for five minutes, that the intention was that they talk and I listen and should they wish to talk for longer, I would continue to record. This procedure is easily replicable and another researcher could follow the same technique. In that sense, there is high reliability.

However, as the interviews moved to semi-structured and beyond, and as the relationship between the participants and me developed, it could be argued the traditional notion of reliability was less tight. However, I would contend that the findings are dependable for a number of reasons. As the sole researcher, I was the only interviewer, giving rise to a consistent interview technique and rapport. The conditions of the interview were always at the request of the interviewee; the best date, time, duration and location for them. Also, while I did not give teachers transcripts to check, I did pick up on discussions from the previous round of interviews by way of checking what they shared. Given the length of the interviews, some of the resulting transcripts were quite long. As my findings show, these were busy individuals who barely had time to be interviewed; I did not ask the participant teachers to read and confirm their individual transcripts; if they had requested the transcripts I would, of course, have obliged. However, as a result of the trust relationship which had developed, the teachers were content to continue to contribute without reading transcripts.

In my opinion, the participants' continued commitment and openness to my research is a strong indication of its reliability, as expressed by Cohen et al. (2007); 'In qualitative methodologies reliability includes fidelity to real life, context- and situation-specificity, authenticity, comprehensiveness, detail, honesty, depth of response and meaningfulness to the respondents' (p.149).

#### **4.15 Validity**

Validity is concerned with whether a measure does, in fact, measure what it is designed to measure. Within an interview setting, the main way to increase validity is to minimise bias; such sources of bias can lie with the interviewer, the interviewee or the questions being asked (Cohen et al. 2007). As has been discussed above, while there were shared experiences within the data collection period, these experiences were not those relevant

to the research and, therefore, I do not believe there was conflation nor bias on my part as the interviewer. Similarly, the interview schedules were discussed with my supervisor before use, thus reducing any bias in the questions being used.

As for the participants, I specifically chose a case study school that was new to me (see section 4.3) so participants would view me as an impartial entity. This increased the likelihood of them sharing honest reflections without concern for repercussions. On occasion, I was asked to reconfirm anonymity before utterances, suggesting to me that participants were not regulating views for the audience. I was careful to listen attentively to responses, asking for clarification within the interview and re-clarifying, where necessary, in subsequent interview rounds. I also minimised bias in the way I selected the sample (section 4.6), asking the acting head of department (HoD) to support the selection and include variety within the group.

#### **4.16 Comparison of Data**

The interviews were carried out in five rounds, with each interview within a round being conducted within the same timeframe (see Table 4.4). This provided an unexpected source of data comparison, further enhancing the dependability of the data. Teachers independently corroborated one another's stories; the teachers within each interview round raised common themes. For example, Building Schools for the Future (BSF) and the building works being carried out at the school featured in Interview 2, while staff restructuring was first mentioned in Interview 3. Additionally, this agreement between teachers also enabled me to identify when teachers might not have been privy to the same information, as their answers were less comprehensive/informed than others. Prior to conducting the interviews, I had not appreciated this advantage of interviewing different teachers at a similar time.

Having discussed the methodologies, methods and subsequent analysis of my research, I now move to focusing on the individual participants. I do this by drawing on the life histories.

#### **4.17 Life Histories/Narratives**

Tobin (2000) took a novel academic slant, writing an autobiographical piece about his work in science education and relocation. Kelly et al. (2013) and Rinke (2011, 2013,

2014) also use teacher autobiographies as the foundation of their research. This research approach has led to my focusing on the participants' life histories/narratives, as it offers a tool to contextualise my findings. Looking at participants through their own life history lens offers a way of understanding what they say and think at the point of interview. Their family backgrounds, routes into teaching and work-life balances contribute to their current positioning.

Life histories attempt to tell the full story/narrative of an individual's life, both retrospectively and contemporarily. One's life history includes a reconstruction of past events and a description of one's life here and now (Hitchcock and Hughes 1989, cited in Cohen et al. 2007). I feel that having access to this narrative enables an enhanced interpretivist approach (see section 4.1.1.1).

Goodson has been writing/advocating the power of life histories/narrative theory since the early nineties. His work on teachers' lives (Goodson 1991, 1992, 1994, 1997; Goodson and Walker 1991) has been recently been used by Daugbjerg (2011, 2013) to map his Danish science teachers' lives and work. I, too, wish to use my data to develop the teachers' life histories and, in turn, use these narratives to understand the teachers' identity dimensions (Day et al. 2006b).

#### **4.18 Participant Teachers' Stories**

It is also important for the reader of this thesis to fully know the teachers, as I do, before reading the findings (Chapter 5). Knowing the teachers allows one to make sense of the findings and how they relate to the VITAE dimension of professional, situated and personal identities. The five case study teachers are described in detail in the following section.

I have chosen the term 'story', as I feel it best represents what I am doing in this section. I am telling the teachers' stories. These stories include teachers' life histories, both looking backwards and at their current narratives. In my view, stories are qualitative while profiles (Aragon et al. 2014) can be more quantitative. In my view, a qualitative study is best supported by qualitative teacher stories, and I would contend it would jar with my methodological positioning to present quantitative profiles of teacher characteristics. The five teachers are Brianne, Louise, Jane, John and Bob. The participant teachers chose their pseudonyms. Their bibliographic details are tabulated below (Table 4.5) – the

quantitative data of who did what and when; however, the qualitative stories are far richer and give much greater insight into the teachers' personal histories. As five individuals, they each have their own very different stories.

Each of the five teachers engaged in a series of interviews (see section 4.7.3), which have enabled me to construct their stories up to the point of starting at City School. These life histories inform the findings and discussion chapters, as the backgrounds of the teachers influence their interpretations and responses to the urban science teacher context in which they all started at the beginning of the data collection period. I have then constructed subsequent and continued detailed stories to encapsulate who the teachers are and their journey during that period.

Table 4.6: Brief biography details

<u>Name</u>	<u>Year of birth</u>	<u>Gender</u>	<u>Class background<sup>22</sup></u>	<u>Subject specialism</u>	<u>Route into teaching</u>	<u>Year started teaching</u>	<u>Number of schools taught in</u>	<u>Year started at City School</u>	<u>Years spent at City School</u>	<u>In post at and of data collection period</u>
<b>Bob</b>	1973	Male	Middle	Biology	PGCE	2003	1	2003	9 ('and counting' <sup>23</sup> )	Yes
<b>Brianne</b>	1972?	Female	Working	Biology	Australian Teaching Qualification	1991	13 (5 in Australia, 8 in London)	2006	3	No
<b>Jane</b>	1974	Female	Working	Biology	BSc(Ed) with QTS	1999	4 (3 in schools outside of London; 2 of those as supply)	2005	7	Yes
<b>John</b>	1961	Male	Working	Chemistry	PGCE	2003	2 (3 placement schools)	2005	5.5	No
<b>Louise</b>	1982?	Female	Working/ Middle?	Biology <sup>24</sup>	PGCE	2007	1	2008	2	No

<sup>22</sup> The assignment of class is both tentative, subjective and provisional.

<sup>23</sup> Bob's own response.

<sup>24</sup> The heavy presence of biology and absence of physics reflects the all too common national picture of science departments in English comprehensive/academy schools.

#### 4.18.1 *Bob's story*

Bob was born in rural England in 1973. He was private-school educated; he completed a degree in Environmental Biology and Geography, which he claimed 'doesn't have a huge amount of use in the wider world' (Bob 2) so went on to do 'various jobs here and there' (Bob 2). In his late twenties he found himself having been working for the same large book retailer for five years and said he was 'bored out of my brain'. Bob wanted to find a job to interest him with variation to keep him going. He decided to 'try teaching'. He reflects that he was unsure whether he would be 'able to do it', but his girlfriend at the time encouraged him to start the PGCE (teacher training course) having been offered a place, and suggested that he did not even have to complete the course. Bob did indeed complete the course and found he 'could do it pretty well' so decided to give a teaching career 'a go'. City School was the first job Bob applied for; he was unsure what sort of school he wanted to work in. At interview he found the school to have a creative draw; there was no uniform and he liked what the head said. He was offered the job, accepted and started at City School in 2003 as a newly qualified teacher (NQT).

This brief life history has a rather serendipitous feel; Bob did not hold a deep yearning to teach, he simply wanted to escape his current position. In fact, it feels that others may have pointed him on to the teaching pathway. Given this route, it seems ironic that at the end of the data collection period he remains one of the two teachers in post and the longest-serving member of the department, with nine years' experience at City School.

While at City School, Bob took on the post of Key Stage 4 co-ordinator/Deputy HoS; he has also taken a period of paternity leave. During his time in City School, his attitude towards the school became more positive: 'I got very little support in my NQT year ... I really didn't enjoy the job in the first year at all, I hated 95% of my time here'. He did not leave at this point, as he wanted to prove he could do better. Bob describes the next two years as being more settling for him and therefore increasingly more positive. However, there was 'a regular stream of people leaving, which has made life quite difficult'. When asked why he does not leave, his reasons were complex: his first response was 'fear of leaving' – he was not convinced it would be better anywhere else. He loved the staff and most of the children, and looking at other professions felt he would have to consider a pay cut. On deeper probing, his reasons for staying were not that transparent, and he felt, on the one hand, a little apathetic, and on the other, that it would be difficult for him to leave as he was the stable element of the department. As this stable element, Bob was

often called upon to help new staff to settle in; I deliberately do not call this ‘inducting’ as that would suggest a formal and structured form of support, which Bob did not feel he was asked to provide.

Around school, he operated with an air of confidence and had a relaxed attitude to life. Bob had good communication skills with pupils and other department members; he was the one member of the science department who interacted with others on a personal level, talking about life outside school. Pupils responded well to him outside the classroom, in classrooms and the extended school. Bob acknowledged that other departments believed that the members of the science department did not get on with each other, but did not feel that was the case. He did recognise that they did not spend as much time together away from school as other departments did. He considered that the main departmental issue was a lack of internal consistency; they talked a lot about what they were going to do, but not all members of the department carried through, and this was not addressed. He felt the department needed a dynamic leader but saw himself as ‘pretty wishy-washy’ and that it required someone to contrast that.

On first meeting, Bob claimed to divide his time ‘brilliantly’; he did not work outside school and admitted that meant that some things ‘just [did not] get done’. When there were deadlines looming, he would go the extra mile and work at home, but this was not the norm. He made an effort to move outside the department at non-contact times and made use of the whole-school staffroom. Bob’s enthusiasm to move beyond the science department might have been because he was in a relationship with a member of the English department. That said, I would describe this as a ‘chicken and egg’ scenario; Bob may have developed said relationship because of his ability to leave the security of the science space. He felt that while using the science space he would be asked too many questions that were mostly school- and teaching-related, and there would be very few science discussions.

The most important element of his job was *who* he was teaching, not *what*. He believed teaching was about the relationships built, and he thinks that scientists may be less good at this important aspect of teaching. He also thinks that if you are only interested in the science and not the people you are teaching, then you should be a lecturer. Another way Bob appears to buck the trend (Mortimore 1991) is that he is passionate about teaching all three sciences up to age 16.



Bob remained in the school for the duration of the data collection period; however, we always discussed why he did not move on. Towards the end of interviewing, I felt Bob was more inclined to leave the school. He had had a baby and moved further away from the school. Spending time with his family was precious and the long commute was taking its toll.

#### 4.18.2 *Jane's story*

Jane, arguably, has a much more complex life history; she was educated in London and describes herself as a bright pupil who rebelled. Jane talked of the GCSE grades she 'ended up with' (Jane 2) and then 'flunked' her A-levels. Jane was also working part-time during her A-levels, to pay her mother housekeeping. Jane was holding an offer from a polytechnic; she cannot remember what she intended to study at the time and chose not to take up the offer. Encouraged by her mother to 'get a job in the real world' she worked as a security guard for a while. Jane described this as 'crappy'. She did not feel she was getting much support from home. It did not take her long to begin to question this decision: 'What am I doing? I can do better than this'. While working, she completed her Biology A-level at night school, and subsequently applied and was accepted for a university place for a BSc(Ed) with Qualified Teacher Status (QTS). Jane chose teaching as she self-ascribed herself as from a 'proper working-class background' and wanted to join a 'profession' she respected. Secondly, like Bob, she wanted variety and, thirdly, really enjoyed her subject.

Jane started her degree in 1995, away from London, in a city near another family member. In her first year of the course, she became pregnant with her first child. She chose to keep the child and turned down the offer of taking a year off to have the baby. Jane 'was frightened' and said: 'if I [had taken] a year off, I wouldn't [have gone] back'. She took some sick leave combined with the school holidays and returned to the course and school placements when the baby was seven weeks old. Reflecting back, Jane recognises this sounds 'quite mad' but at the time she 'thought she was Superwoman'. Despite the undeniably challenging circumstances, Jane graduated in 1999. She describes her love of teaching and commitment not only to teaching but also to a career, as she now had to think about supporting her child.

As more of her family had moved to the area, Jane chose to stay, rather than move back to London. At first it was difficult to get a teaching job; Jane was 'on income support for

three months. It was a horrible experience. I hated it'. Adamant she wanted to work, she sent her CV to schools and eventually secured herself supply work. It was this supply experience that Jane feels enabled her to develop her classroom management skills. These postings then paved the way for a secure science teaching job; she remained in the school until 2005. Having gained experience and achieved what she felt she could in that school, Jane returned to her initial ambition of moving back to London and teach in the sort of school she had attended as a pupil.

Jane applied to two London schools, one of them being City School. She was offered an interview at City School; she was not intending to teach at City but she decided to attend the interview for the experience. Jane describes the interview day as 'quite bizarre and hideous'; she was unimpressed by the pupils in the lesson she taught and told them so. At the interview she was asked the standard question: 'If we offer you the position, will you accept it?' Her reply was 'I would have to think about it'. She left the school convinced on many levels that she would not be offered the post, and not really sure she wanted it anyway. Within hours they phoned to offer her the position; true to her word, she said she would 'sleep on it'. Later that day she was offered an interview at her preferred second school. At this point Jane chose to accept the secure City position; she did not want to risk not liking or indeed being offered the position at the second school. Jane started at City School in 2005, expecting to stay one year and move on.

This long and complex life history features many themes; however, what stands out is Jane's determination. She was able to navigate the various events in her life and be resilient to achieve her goal of having a professional career. Also, much like Bob, given the details of the application to City School, it is strange that Jane is one of the two teachers who remained at the school for the duration of the data collection period.

Jane was acting HoD at the start of the data collection period; she agreed to step up for one year, as the post was unfilled when the academic year commenced. Jane had one child when I met her and had a second child during the time I was collecting data, and therefore took maternity leave during the study. Jane had a long-term on-off relationship, and gave the impression she was often operating as a single parent. This meant that Jane had to balance the demands of her career with those of motherhood and childcare. For this reason, Jane's working day in the school building was kept to a minimum; consequently, she was taking a lot of work home.

Over the data collection period, Jane continually reassessed her role within the school, first resigning from the acting HoD role and agreeing to become Key Stage 3 co-ordinator, then subsequently resigning this role too, to work as a ‘main scale’ teacher. Jane felt that the various roles detracted from her core goal of teaching. This was her way of navigating her life terrain; by dropping some of the other school responsibilities, she was able to redress the balance and focus on classroom teaching and manage her family life.

From observation, it is clear that Jane has an excellent rapport with her tutor group pupils; on the observation day I attended registration with her and also saw her pick up a number of incidents about individual students in her form. She dealt with students respectfully and they responded well to this level of care. She has very high expectations of the students she teaches and works hard to manage their behaviour. Jane appears to have collected some rather challenging pupils, either as classes because of staff turnover or individuals who have been excluded from other lessons. Consequently, much of her lessons are taken up with managing behaviour.

Jane’s priorities were clear: her family and her teaching. Additionally, Jane always made a point of getting time to herself within each day for sustenance and cigarettes. She felt she was better equipped to fulfil her duties if she also addressed her own needs at breaks and lunchtimes. This careful balancing act led to Jane not only being one of the two surviving participants in post in the school but also to being markedly happier; she looked healthier and talked much more positively about herself.

#### **4.18.3 John’s story**

John was born in 1961; he was educated in London and completed his degree in the early eighties. He expressed an interest in teaching at this stage but was discouraged by his former teachers. ‘They put [him] off’, telling him it was ‘horrible ... awful’. Many of them were themselves leaving the profession. Instead he ‘wandered around in life’ going from job to job; it was not until he secured a job in a library some 20 years later that he reconsidered teaching. While working in the library, he enjoyed the experience of helping children with their homework and so signed up for a Training and Development Agency for Schools (TDA) ‘taster day’. The taster experience allowed John to spend a day or two in a secondary school; he so enjoyed the time that he applied for and was accepted on to a PGCE course.

In interview, John told me he started at City School in the December after his PGCE; when asked why he did not start in the September, he explained: ‘I was redoing part of my PGCE experience’. From my own PGCE tutoring experience, I know this is usually offered when a candidate needs extra time to meet the teaching standards. Also, as mentioned in the reflexivity in the previous chapter, I vaguely remember having contact with John in his PGCE year and him struggling during his placement. John applied for the post at City School as another peer from the course already had a teaching position there. The initial post in 2005 was on a temporary contract, but was subsequently made permanent. Like Bob and Jane, John came to teaching later in life; however, unlike them, he did express a wish to go into teaching from an earlier age/stage.

John’s school day is the shortest of the five teachers. He cycles to school and arrives at about 8.15am; he then changes in his classroom and is ready to start his day nearer to 8.30am. He leaves school shortly after the end of the teaching day in order to see his family; he then works at home. John has children and a partner; he did not offer further details. John’s day started with pupils arriving in his lab for registration, often before he was ready to receive them. This led to a disorganised, apparently unstructured start to the day for all involved.

John did not appear to follow standard school policies and practices with respect to classroom display, registration, pupils’ expectations, etc. During break duty, if a colleague was around, he was less focused on the duty task. John did not appear to be well prepared for lessons, nor did he present otherwise to the pupils, who often ignored him and his requests in class. Behaviour was poor in his lessons, which was often not responded to by John. When I first met John, he appeared oblivious to many of my observations above and there was no evidence that he was supported within the school to address these issues.

John talked to himself a lot; it is not possible to know whether he did this when he was not being observed or if he was trying to give me a dialogue of his day. He made time for himself during the day to stop for lunch, etc., and still suggested there was not enough time for him during the working day.

It appears that John put little effort into his role, but did stay in the school; so, for the sake of consistency, was able to exist ‘under the radar’. Over the course of the data collection period John had an increasing amount of time off as sick leave; this started as asthma-

related, but it became apparent it was stress-related. John was identified as an issue by the senior leadership team (SLT); rather than being supported, he was then pressurised to leave. John involved his union but eventually he agreed to resign. This departure has impacted John's morale and he has moved into supply teaching.

#### **4.18.4 Brianne's story**

Brianne was born in the early 1970s in Australia. Her childhood home in Australia was near the coast and she spent much of her time observing scientists do 'sea turtle research'. This inspired in her a love of biology, but given her self-described 'working-class background' she was encouraged into teaching, as science was considered to be less secure and lower paid. Brianne also admits teaching was a means to travel. When questioned further about these alternative avenues, Brianne replied, 'no, it was always a deliberate decision to get into teaching'. In 1991, Brianne completed a four-year Australian Teaching Qualification with a science/biology focus.

Brianne taught for five years in Australia and a further eight years in the UK, mostly in London. She described the Australian schools as comprehensive schools. Her first post in the UK was a very different girls' school in the suburbs: 'I hated it ... it was just not my thing ... I was there for probably a term'. Daily agency supply work allowed her to see many different schools across the capital. Brianne then taught in two further urban comprehensive schools for six months and a year respectively, before settling in a school she worked at for five years. Both her length of employment and interview reflections suggest that Brianne was very happy in this urban school. The school was controversially closed down, despite many in the school believing they were making significant progress away from the Ofsted grading of 'special measures'. Unhappy with the alternative teaching positions in place, Brianne chose to apply to City School as many of her former pupils moved to the school. Brianne started at City School in 2006.

Brianne's life history reveals a lifelong commitment to teaching; this was enacted by entering the profession early and accumulating a wealth of continued experience in the field in a large number of schools.

When I first met Brianne, she presented herself as an assured and committed urban science teacher. Brianne had a strong sense of self and robust views; she was the LGBT (lesbian, gay, bisexual, and transgender) staff representative and had open discussions about

sexualities – at our first interview she talked of being ‘out’. Being openly gay was a recurring theme in our conversations and clearly an important part of her personal identity. She shared with me her experiences of being on the receiving end of homosexual bullying and that she felt there was not enough equal opportunities training for urban teachers. This lack of formal training/education on this aspect is a professional issue; the lack of it impacts on the ‘situated’. Brianne also had political ideals which were at odds with some school policies, such as setting pupils by ability.

‘[T]he thing which keeps me in teaching is the kids’; this commitment to the pupils is reflected in the way that pupils responded well to Brianne, both in and out of the classroom setting.

Brianne had many demands on her time, in addition to teaching her classes. However, she often felt this time could be better spent if school systems were more carefully considered; for example, the apparent large number of teachers required for invigilation of a small exam hall, the length of time teachers were given to respond to management requests and the behaviour support system procedures.

Brianne saw the science department as ‘the most dysfunctional department I have ever worked in’. Brianne felt each the member of the science team worked ‘really hard’ individually but it was how they were managed that was the problem. The department had a high staff turnover at all levels; there were three heads of department over the period I was visiting the school.

When directly asked about her work-life balance, Brianne recognised she had made a conscious decision to stop the ‘twelve-hour days’ as they were impacting on her relationship with her partner: ‘we went through a particularly bad stage where we just came to think that actually, do you know, work has to stay at work because it [was] now beginning to affect us’. Brianne acknowledged that her life was out of kilter, and that she needed to redress the balance. She changed the way she worked in order to maintain the relationship with her partner.

In the first interview, Brianne recognised the challenges of her position and yet enjoyed her role and the challenge it presented, and had made an active decision to teach in urban schools. However, despite the school’s willingness to benefit from Brianne’s skills, they also did not appear to be effectively supporting her to gain QTS in the UK. The data on Brianne shows a recurring theme of conflict, which left her feeling frustrated in the

school. It is this imbalance, discussed by Day et al. (2006a), that can impact on teachers' resilience or commitment. By the second interview, one year on, these issues had persisted and she had handed in her resignation. Brianne felt 'cheated by the system'; she highlighted issues of bureaucracy, lack of trust in teachers, pressure, time marking/planning, negativity and lack of praise for teachers doing well. Her promise to herself had always been not to become a 'cynical, jaded' teacher, which she felt herself becoming.

Brianne left the teaching profession in 2009 and moved on to work for a local authority, facilitating pupil LGBT awareness in a large number of state schools. This enables her to combine her commitment to urban pupils with her strong identity construction with regard to sexual identity.

#### **4.18.5 Louise's story**

Louise was born in the early eighties. She completed a chemistry degree immediately after taking her A-levels; she then considered teaching, but her aunt and uncle, who were teachers, said 'don't be silly'. At the same time she was offered a prestigious PhD position, an opportunity she felt she could not refuse. However, having completed the PhD, she felt academia was not for her and she returned to her earlier notion of teaching as a career. Louise came to London to do her PGCE part-time; she felt that, at her PhD university, 'science [was] underrepresented by working-class people'. She believed her working-class background had afforded opportunities for her, but that not all benefit in this way. By becoming a teacher, Louise wanted to enable such children to have those opportunities.

Louise was offered a post in her second placement school within two weeks of starting, which she accepted. Within four weeks, the headteacher had called her 'egotistical and a maverick' and suggested she 'would not fit in'. Despite her having signed a contract, it was decided by all parties that it was best if she did not take up the NQT position in the autumn term. Louise completed her placement in the school and her PGCE and then went travelling in Australia. On returning to the UK, there was a financial imperative to get a job and City School was advertising; 'it was one of two schools within five minutes of my home address'. Louise was interviewed and offered a position; she started at City School in January 2008.

Louise is the youngest of the five teachers and, like John and Brianne, expressed an early interest in becoming a teacher; also, like John, she was dissuaded by others, but returned to the notion of teaching much sooner than John.

Louise started at City School in the spring term of 2008 as an NQT; the school fitted her criteria of being a mixed urban school, and she believed it would complement her creative flair. When I first met Louise, she would arrive at City School at 7.30am and stay late; she was often one of the last to leave. During the observation day, Louise was busy throughout, with no 'downtime'. She did not normally eat breakfast nor lunch; she claimed that it was hunger that drove her home at the end of the day. Much of Louise's time outside lessons was taken up with lesson planning and administrative tasks.

Louise's classroom was well presented and in line with the school display policy. Louise's lessons aimed to engage the pupils actively. It is evident that Louise was also very conscious of her pupils having the knowledge to 'pass the test'. Louise appeared to have a rather unsystematic approach to work, and this impacted on her efficiency. On the observation day, I observed her moving between tasks, often not finishing one before moving to another task. She would be easily distracted, and often put off tasks and move to another if she became overwhelmed. This impacted on her sense of achievement, as it took longer to consider tasks complete. Louise had very high expectations of her pupils and even higher ones, possibly unrealistically so, of herself. Louise had a strong sense of what she wanted to achieve and felt the school's systems did not support her in doing so.

Louise felt her colleagues in the department were 'nice but incredibly stressed'; there was no exchange of ideas, and others would only offer help if one asked for it. She also felt the wider school staff were very cliquey and it was not easy to relate to other members of staff. Louise disengaged from the department; she could not recall what took place in meetings and was visibly frustrated by the department's management decisions. Her main source of support was her induction mentor, Brianne. Louise claimed to have very little to do with her other department colleagues. It is evident that Louise liked the children in the school and positively embraced the challenges they presented.

At the beginning of the data collection phase, Louise acknowledged her work-life balance was 'not great'; after a long day in school, she also worked most evenings at home. She did not work at weekends, but spent much of them sleeping and recovering from the week, then psychologically preparing for the next week. As time progressed, Louise felt her



freedom was restricted and her professionalism was being squashed; she wanted to be able to prepare and teach for her classes with a level of trust. She also commented on the lack of reflection and praise from middle and senior management.

After five terms, Louise resigned her position at City School to take up a post in another school in the same area. A colleague from City School had been appointed as HoD in the new school, and Louise moved with her. I find it surprising that this colleague was not mentioned above when discussing staff relationships and support. Her respect for this colleague was not the only motivation for her resignation. Louise also cited her main reason for deciding to leave was the lack of consistency on the part of the leadership team; she felt that she could not expect similar responses to various incidents concerning a number of issues, including school uniform, lesson observations and pupil behaviour. She did recognise that the new post was a driver to make her move on sooner than she might have otherwise done. Louise implied her second school might be ‘make or break’ for her; she had a partner with a well-paid job, implying that she did not need to work, so if her expectations were not met, she felt she might leave the profession.

When I met Louise in her second school<sup>25</sup> she was no happier; in fact, much of the conversation came across as a charade. She felt the school had been mis-sold to her by the headteacher. The ‘make or break’ notion mentioned above had not been carried through; she was moving again to school number three. As before, Louise claimed this school was make or break for her and teaching. This school was further out of London, as Louise had moved house. When I visited Louise in her third school she was, if anything, even unhappier. This time the school *had* been ‘make or break’; she was leaving the school and travelling with her now husband to Australia. He was moving for work reasons and she was accompanying him; her plan at our last conversation was to apply for academic research work in education in Australia, not schoolteaching.

#### 4.19 Conclusion

I have discussed my methods, analysis and participants. I adopted a constructive interpretivist standpoint for this research. Data was collected in one case study school from five participant teachers. The teachers were observed and interviewed over an extended period to provide rich longitudinal data. The data was analysed and coded into

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<sup>25</sup> This was not a formal interview; I was visiting the school for another reason, and bumped into Louise.

themes, and then mapped against Day et al.'s (2006b) identity dimensions. I have also described a number of issues for reflection, with respect to my supervision experience and reflexivity, surrounding shared experiences for the participants and myself as the researcher. The richness of data has contextualised the study by telling each of the five participant teachers' stories. These stories rightly feel as they are slipping between analysis and findings, hence their position in this thesis: a transition from methods to findings.

## **5. Findings I**

As detailed in Chapter 4, I analysed my research findings using Day et al.'s (2006b) three identity dimensions: professional, situated and personal. In this and the subsequent two findings chapters (Chapters 5–7), I present my analyses relating to each of these dimensions in the following order: professional identity (Chapter 5), situated identity (Chapter 6) and personal identity (Chapter 7).

I order them in this way because I see the three dimensions as operating in a 'cascade' effect. For instance, the teaching profession is strongly framed by policy and curriculum; therefore, how teachers construct their identity in relation to the professional context will be discussed first. Secondly, teachers' situated identity constructions will be discussed, as the participating teachers were strongly concerned by how the school enacted and responded to the professional dimensions. The third and final finding chapter considers the teachers' personal identities, focusing on how personal identities form through the interrelationships of the three dimensions and how this interrelation can impact on retention/attrition.

The line of argument, throughout and within the three interconnected findings chapters, is focused on the participant teachers. Firstly, from the professional perspective, there are a number of factors which combine to contribute to urban science teaching being a particularly difficult job; e.g. government policies, curriculum demands and assessment systems that are further complex in the urban setting as a result of pupil diversity. These professional factors can be still further exacerbated by situated factors in school, e.g. level of support, working environment and school management, again compounded by urban issues such as lack of physical space or use of temporary staff. Such exacerbations can increase the risk of teachers leaving. However, ultimately, I will argue that what can tip the balance in the teachers' decisions to leave or not are their personal characteristics within their urban science teacher identity; notably, their personal resilience, pragmatics and notions of whether they have 'choice' or 'no choice' regarding their decision to stay or leave.

This chapter starts at the beginning of the argument, considering the professional factors that can contribute to making urban science teaching such a difficult job.

## 5.1 Professional Identity

The political nature of the teaching profession incorporates various centrally controlled features; these features are the subthemes that are integrated within this professional identity section. These subthemes include government policy, curriculum and assessment.

Personally, I was surprised that this dimension was relatively narrow; after the data was coded and categorised into themes, as described in Chapter 4, I found that teachers spoke more about how schools – and they as individuals – responded to the professional dimension rather than discussing the dimension itself. The professional dimension covers the policy context; however, more often than not, the teachers were concerned with their school's enactment of/response to the policy rather than the policy itself. For example, the teachers complained about how the school and the department made demands on teachers to improve pupil exam grades, but they did not hold the system to account for these demands. As Jane articulates:

[Y]ou know, the government, I don't know, the government needs to, actually I don't know what the government can do, because whatever they do, is, I think, just waters down and gets changed when it gets to the school, so I think it comes down to the schools. I think the government needs to take the pressure off of schools. All the things the schools are doing to monitor puts pressure on staff, maybe they got to ease off the senior management and the school a little bit (Jane 2).

The above quotation reveals the notion that central control can be considered to be detached from the schools and/or teachers its policies are intended to influence. While a central diktat is in place, how that core message is heard and implemented within schools appears to matter more to teachers, i.e. policy enactment (Burstow and Maguire 2013). When I asked the teachers specifically about what the government could do to improve education, their responses quickly slipped into what the school could do. Notions of target-setting, Ofsted and other assessment outcomes were always discussed at the school (situated) level rather than the 'professional' (policy) level. I suggest that this interpretation of central control goes some way to explaining the relative brevity of the professional identity section and the subsequent extensiveness of the situated and personal identity sections within this chapter.

I now turn to the subthemes that did arise under the professional identity dimension concerning schools and teacher preparation; these include the education system, government policy, curriculum and assessment.

### 5.1.1 *The education system*

‘The system’ is a general phrase used by the teachers to talk about education at a structural level, usually to convey a sense of displeasure:

I love teaching the children; I don’t like the education system and the way it’s heading at the moment (Louise 5).

And later in the same interview:

[I’m] not feeling disaffected from teaching children. I’m feeling disaffected about what the education system’s creating (Louise 5).

Such comments suggest a rift between what Louise enjoys at the chalk face of teaching and how she sees that enjoyment to be at odds with the current dominant approach of the education system. Such divergence may well contribute to notions of identity imbalance, where professional and personal ideals are in conflict, due to a clash or jarring of philosophies/principles.

Education is a highly politicised field (Ball 2012); I interpreted that when the teachers refer to the system they are often referring to their feelings about the government. Their comments often revealed a resentment of government influence:

I think, I feel like the government are shafting us as teachers. I, I don’t think ... it’s really sad, because the people in power are making it more difficult, I feel and yet the people who suffer aren’t going to be their children, ’cause their children will be tucked off somewhere in a nice private school (Jane 4).

The resentment in Jane’s comment is shown by her remark about politicians’ children; not only does she suggest that the decision makers are not the ones who suffer, but that their children will be unaffected as they will be educated outside of the public/state system, ‘tucked off somewhere in a nice private school’. These feelings of resentment against ‘the education system’ can contribute to teachers’ feelings of injustice and low job satisfaction,

impacting on identity cohesion and potentially retention. While I would contend that all five teachers hold some of the similar negative views about ‘the education system’, Jane and Louise articulate them more vehemently. They express such sentiments as evidenced in their quotes above; Jane uses the word ‘shafted’ while Louise claims to be ‘disaffected’.

### 5.1.2 *Government policy*

As general elections must be held within a five-year time limit, governments, secretaries of state for education and education policies change, often frequently. It is to the teachers’ discussions’ of these policies pertaining to education and schools that I now turn.

Due to the nature of the interviews, described in Chapter 4, specific questions about government policies were not asked. Government policy arose as a subtheme from the data when teachers were asked about their experiences as urban science teachers. Below I discuss teachers’ views about government policy to indicate the general ‘flavour’ of these views.

Government policies that come down that are just ridiculous. Stuff comes down and it’s like a blanket. The entire country must do this but there is no thought actually and it’s fine, but it’s not going to work in this area. It might work in all nice and happy Middle-class-ville over there but it doesn’t work over here (Brianne 1).

This quote suggest that urban teachers do feel that their context is different, and is ignored/not appreciated by national policy makers. When I asked Brianne which policy she was referring to she replied, ‘Ah, they come out, these policies, every two weeks’. While this might be considered an exaggeration, it does show that Brianne feels there are an excessive number of policies that ‘come out’ and these are not always appropriate to the urban context. In fact, Burstow and Maguire (2013) do report a substantial increase in the volume of school-focused legislation since the introduction of the National Curriculum, following the Education Reform Act 1988. In Chapter 2, we saw that much of the policy has the science and urban domains within its remit. Such an increase in legislation could indicate a greater level of intervention in education and therefore, arguably, reduced teacher autonomy. This reduction, in turn, can result in identity shift, where the teaching profession is seen as a less prestigious role.

Brianne's comment not only mentions the amount of policy intervention but also reveals she does not feel it applies to her setting. Her quote uses notions of 'there' and 'here', comparable to 'them and us'; in fact, in many ways, Brianne chimes with the resentments of Jane highlighted above. 'Middle-class-ville' draws out the same class undertones as Jane's 'tucked off somewhere in a nice private school'. Louise echoes Brianne's sentiments by indicating that she feels that government policies are not well matched to the reality she experiences:

The things that frustrate me are just general policies of how, like politicians' view of education sometimes ... Such as setting, tests and what is education and what's important to learn in school and those things are frustrating but are things that are applied in every school (Louise 2).

Louise also suggests that the issue lies in the blanket application of policy in every school and their apparent irrelevance or inappropriateness for all settings. Brianne and Louise do not appear to have low expectations of their pupils in urban schools; they are arguing that their more complex situation ought to be better considered by those who make policy.

Bob's thoughts on policy are more specific and forward-looking; he reflects on the future of education:

In terms of, well, it's, I mean, I, there, well, ... there's the whole point about the theoretical idea of what's going to happen with education anyway, I mean, there's that side of it, um, with ... the reform [pauses] in terms of where secondary education is going to end up, um, that kind of thing, um ...yeah ... (Bob 3).

In Bob's following interview, he also mentions the government's current preoccupation with teachers' degree class as an indicator of their teaching ability. In Chapter 2, we discussed the available bursaries for those training to be teachers, where those with higher academic qualifications were awarded greater financial incentives. Bob revealed he 'wouldn't have got in' to the profession (Bob 4), suggesting his degree class was lower than the current training bursary limit. The introduction of such a policy could have two possible identity impacting outcomes; it could make one reflect on one's own competencies, possibly doubting whether one is indeed capable and qualified to be a teacher. Bob assumes the alternative position, questioning the policy rather than questioning his own ability. Bob is concerned at the suggestion that those with high-level

degrees make good communicators: ‘the whole idea of the, because you’ve got a high-level degree, you’re a better communicator of ideas is ...’ (Bob 4); and he justifies his view by describing some well-qualified individuals who he considers to be ‘socially incompetent’, suggesting they would make poor communicators and therefore poor teachers. While this might be considered to be a more robust standpoint, it may well challenge Bob’s identity construct, as it suggests how he feels he works within a professional system with which he does not ally.

The teachers’ critique of government policy indicates two salient points of identity conflict. Firstly, within the professional dimension, teachers saw a mismatch between national policy and the local urban science needs; and, secondly, they identified examples of where policy was at odds with their personal values and professional identity.

### 5.1.3 Curriculum demands

One particularly contested area of education policy is that of the curriculum. The National Curriculum was introduced in 1988 and has been subject to a number of reviews which reflect the philosophical ideals of successive governments. All the participating teachers commented on both curriculum content and their frustration at the implications of the frequent changes at some point over the data collection period, some in more detail than others. I draw on two specific teachers, who comment more on this aspect, here.

John mentions on more than one occasion that he feels his teaching is constrained by the curriculum. In the first interview, he talks about how science is more interesting than the curriculum, and feels he has so much content to get through that there is not enough time for ‘exploring’. He believes the curriculum ‘narrows down the science’ by which he means that he wants teachers to be able to experiment and ‘take the kids with them, a little journey down to a particular topic rather than saying, “we can’t deal with that today, we are going for the next topic”’ (John 1) in order to motivate and encourage pupils more. In another interview, he admits that if he has any ‘spare time’, he likes to ‘explore certain issues that they’re interested in ... I, I really like it ... You know, I think and they like it as well’ (John 3). John was discontented with the content of curriculum, feeling the subject he was teaching was doing disservice to the science he cared about. Here we can see the professional dimension of the curriculum jarring with John’s personal (science) identity.



In addition to the curriculum content, John was also frustrated with the volume and frequency of change within the curriculum and the consequences of the changes ‘where, you know, again, the, part of the curriculum changed ... We had to do all these other things ... And, um, it, it just sort of all fell apart’ (John 5). Similarly, Jane said:

Yeah and in terms of science, um, the curriculum bloody changes a lot ... We’re on a new one again, it’s too much, that’s one thing that ... really winds me up is that we’re now teaching a new course, so a lot of time and effort, so the stuff you did last year, you knew you weren’t going to use this year ... And it’s really frustrating. I don’t know why they keep doing that to science (Jane 5).

John and Jane voice feelings of professional frustration, requiring constant effort to respond to curriculum change. Curriculum issues are factors that impact on one’s professional identity, one can feel compromised by the content or by the change in content, both of which fantail with implications for teacher autonomy. Frequent directives from above about what to teach, via the National Curriculum, can result in teachers not feeling professionally trusted to make their own decisions regarding what to teach.

Despite voicing her frustrations, Jane was also enthusiastic about the impending curriculum change: the new science curriculum to be taught from 2016. This resonates with the EISER project’s findings; there was no single teacher response/reaction to the proposed curriculum changes. Jane welcomed the concept of moving away from ‘science’ to separate science subjects:

I hope so ... Yeah, I do, God, yeah. You’ve got biologists, you’ve got physicists, you’ve got chemists, you have not got scientists, it’s completely ludicrous (Jane 5).

This sentiment resonates with the views that she expressed about not enjoying teaching outside her specialism when she first started teaching. It is also an indication of possible ways to redress the balance within the identity dimensions. For instance, for Jane the demands of the curriculum (professional) and school (situated) to teach outside her subject specialism, biology, resulted in identity imbalance; her keenness to move to separate sciences may well lessen the imbalance of feeling outside of one’s personal comfort zone, and hence reduce the relative dominance of the personal identity dimension.

Another aspect of the impact of policy and curriculum on teacher professional identity is that some participants felt that, as science teachers, they were no longer allowed to carry out certain experiments for health and safety reasons. Jane and Brianne were two such teachers, expressing the view, possibly mistakenly, that certain experiments were ‘off limits’. The Association of Science Education (ASE) has published a number of articles on the conception of what is and is not allowed (see ASE 2007), as many teachers have claimed that they are limited in what they can do in the classroom. The important point here is not whether policies/curriculums are correctly interpreted, but that this is how they are interpreted, and therefore this interpretation impacts on teachers’ identities. I would argue that this impacts on teachers’ identities and may contribute to a developing sense of dissociation. Some science teachers mistakenly believe they have fewer experiments available in their teaching repertoire; and, arguably, the need to engage through such experiments is greater in urban settings.

#### **5.1.4 Assessment systems**

One of the driving forces behind the introduction of the National Curriculum was the perceived need for standardisation, to enable schools and students to be compared. Such curriculum standardisation leads to an assessment-driven system, and an exam culture, where some argue that the ‘tail is wagging the dog’ (Sergiovanni and Starratt 2001; Lange and Meaney 2012). Assessment was a further area that featured in the professional dimension of teachers’ reflections.

These teachers were motivated to teach science to enhance children’s engagement and enjoyment of the subject; this is different from becoming a teacher so children can pass exams. An assessment-driven system is important to consider, as it is associated with teachers’ motivations and, therefore, again draws out compliment or conflict within identity dimensions.

John’s previous comments about the curriculum relate to his thoughts about the exam-driven aspect of teaching:

What I like to do every so often is, you know, if I have a spare lesson, is throw in a lesson you always wanted to do with the kids, so you want to do a lesson about something. I always wanted to do about a particular

topic, let me do a lesson about it, so they can see so there is more to science than the stuff where they learn and pass exams (John 1).

This quotation shows that John's working focus is about children passing exams and, on rare occasions, when he has time, he wants to move outside that constrained remit. This constraining of science entails a certain amount of compromise; if teachers only teach non-exam content their pupils are unlikely to pass content-heavy exams. Given the accountability climate in some schools, low pupil pass rates are likely to be followed up by middle and/or senior managers. Conversely, if science teachers do not do as John describes, they could feel that their professional identity as a scientist and a teacher is compromised. Navigating this pathway is a way of managing one's identity and therefore remaining in post.

In urban schools, the exam culture can be experienced as particularly challenging; more pupils with free school meals (FSM), special education needs and English as an additional language can mean that pupils and teachers need to work harder to achieve exam results. Therefore, I suggest that an assessment focus is more stressful for these teachers. Louise expresses very specific concerns that clearly resonate with her comments about applying common policies to all schools:

[Y]ou have got so many kids who have got special needs and English as a foreign language and then you are trying, I feel like sometimes I'm trying to fit these kids into boxes and ... I can't remember the what the saying is, camel through the eye of a needle, I've got these children who just cannot access the tests, like we created the special need classes and it's good for because I can then do other assessments like oral assessments with them and actually see that they know a lot but they can't, do a test, they can't read the questions and understand what it is, that's frustrating because it is frustrating for them like the whole school life they become hung up on tests, and they hate tests, because they are told how rubbish they are every time they do it. And again because you don't have time to differentiate and make worksheets in Turkish for kids who speak in Turkish and the kids who speak Bengali and all that, it's hard for them to access it, it's hard for you to help them (Louise 2).

Louise felt that what was assessed and privileged was often ‘western white knowledge’ rather than fundamental understanding of science. Here we have a case where there is conflict between different identity dimensions. Louise believes that all children can be supported to learn science, yet she recognises that learning science does not necessarily equate to passing a science exam. Her personal philosophies require that she adapts assessment measures so that pupil understanding can be appropriately measured, but the professional expectation demands standardised tests. Such frustrations can be changed, tolerated or can ultimately lead to attrition if they cannot be reconciled – as in the case of Louise.

### 5.1.5 *Initial Teacher Education (ITE)*

The final subtheme of the professional identity chapter is that of teacher preparation. Both John and Bob had followed a PGCE course, and reported finding it somewhat lacking as a preparation for becoming an urban science teacher. They gave the impression that the experience sheltered them from reality in some way:

I would get people on their own in a classroom earlier. I didn’t, I was speaking to [an NQT] who was here last year, who was good, really good, but she’d never been on her own in the classroom before she started here, before she started this, every single lesson she’d had as a beginning teacher, BT, she’d had this classroom and the teacher in the classroom, which meant she soon, soon realised she had no, she had never actually had to control a class (Bob 5).

John made a similar point:

John: What you need is actually, I think, the, the, the students to be more, in school more.

**AM: More, in school more?**

John: Yeah, yeah, actually in school more.

**AM: ’Cause they’re already in two-thirds of the time.**

John: Yeah, you know, in that, you know, err, and also being left alone more, you know ...

**AM: Right.**

John: As well, as that's, you know, left alone more to actually just get the feel of what's going on and the routine (John 5).

John, a practising teacher, suggests more teaching time alone in the classroom<sup>26</sup> would have better prepared him for the urban classroom.

I would suggest that one reason that urban classrooms are more likely to be different when teachers are on their own in the classroom than with another qualified adult in the room is the increased number of higher need pupils in the urban classroom. This increased need means a greater number of adults can help support those pupils. It is possible that a beginning teacher could become familiar with this scenario and then, upon qualification, they find themselves in a teaching post where they are the only adult in the classroom. This would not only be a new experience but the teacher would need help to make that transition. There are inherent consequences of this shift in competency; an individual who has showed high levels of competency in their Initial Teacher Education (ITE) (with extra support in the classroom) may find their confidence lessened when they struggle on their own. Such loss of confidence could impact on their self-belief and therefore result in their personal identity being dragged out of balance, within the interconnected identity dimensions. It follows, then, that the loss of confidence and realisation of classroom demands on one as the sole adult in the room could well contribute to early careers teachers' decisions not to remain in post. While this is not a factor in leaving the classroom mentioned by my teachers, it is a possible outcome for some, given that both Bob and John felt that they had not had enough time alone in the class during their teacher preparation; it may well lessen the teacher's resilience.

A second reason to consider with regard to being alone in the urban classroom during ITE may be that pupils are performing for their 'own' classroom teacher. It is possible that the observing classroom teacher is either still managing behaviour, subtly, with a look from the sidelines, or that the pupils are merely just more on task because their teacher is still in the room. If this is the case, the beginning teacher does not truly know what it is really like to be solely responsible for a class of urban pupils. In the same way as described above, this realisation could result in teachers feeling less capable of managing urban pupils and subsequently feeling less adequate as an urban science teacher.

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<sup>26</sup> As part of the PGCE programme, mentors and classroom teachers are advised to remain in the classroom or in an adjoining space while student teachers teach lessons.

Similarly, it will inflate the demands on managing one's personal identity, and may contribute to teachers re-evaluating their position.

All teachers, including science teachers, are legally responsible for the care of the pupils in their classroom/lessons. Therefore, the beginning teacher taking the lesson cannot be held legally responsible should an incident occur. As science is a practical subject, involving experiments and equipment, it arguably entails a greater risk of an incident in those classrooms/labs than, say, English. Consequently, I expect it is likely that science beginning teachers are left 'alone' less frequently than trainees in other subjects. If this is the case, it implies that science teachers are less well prepared to be fully responsible teachers in their own classrooms, and urban science teachers even more so. If they are indeed less well prepared, they could, therefore, experience higher levels of stress when transitioning to Qualified Teacher Status (QTS). If science teachers do indeed have a more difficult transition from beginning teacher to NQT than other subjects, this, again, might lead to a higher level of teacher attrition. This more demanding transition requires support in school, and in the urban case study this support was not always available. In this situation, there is greater reliance on personal resilience (see Chapter 7).

In addition to increasing the time spent alone in the classroom, some of the participants (e.g. see Jane's quotation below) also expressed the need for more specific training to prepare them to be urban specialists. It is debatable whether certain content is only relevant to the urban setting and that topics such as diversity should be included more thoroughly in all teacher preparation programmes.

Brianne raised the issue of equal opportunities. In her first interview, she shared the high level of homophobic comments she experiences hearing, daily, from pupils and staff. She also suggested that 'good universities' train teachers who come from 'a middle-class privilege[d background]' and that those BTs need to develop a better understanding of working with 'not middle-class' communities. Jane focused on other strands of equality, gender and ethnicity:

There should be specific training on girls and boys, there should be specific training on teaching students from ethnic minorities because I think those children need to [be] taught in different ways, I don't think we necessarily know how unless we actually go through the process. And

sometimes it can just really drain you and sometimes it is really too late whereas you would be a bit more prepared for that (Jane 1).

When Louise was asked what specific preparation urban science teachers needed, she responded by highlighting the importance of teachers understanding the Social and Emotional Aspect of Learning (SEAL), which she considers is ‘getting lost at the moment’ (Louise 5). She believed that SEAL is of particular importance to science and that pupils need to understand that ‘science isn’t just about the facts’. This is another example of Louise’s personal beliefs about science and science education being juxtaposed with the curriculum changes. This can be seen on another occasion when personal and professional identities might oppose each other; this needs to be managed to regain stability within the interconnected identity dimensions.

Jane encapsulates many of the topics mentioned above by others in her reflections on ITE in this quote:

So I think to become a really good urban science teacher or any other teacher you really do need to be given time to develop those skills because I don’t think ... I just remembered training and then going into the school which at the time wasn’t an urban school and thinking, this was not what I was trained for! And I learnt on the job. I think in an urban school there is so much more pressure, so much more intensity that you just don’t have time for that, so training does need to be most specific to prepare people for this job (Jane 1).

Jane’s comments here suggest she was ill-prepared for the urban science teacher role. The urban role requires an understanding of and sensitivity to equality issues. While Jane believes she was not so trained, she remained in post. Chapter 7 explores how personal attributes of one’s identity can be the ultimate determinant of teacher retention/attrition.

## 5.2 Professional Identity Summary

This chapter on urban science teachers’ professional identities has considered the ways in which policy, curriculum, assessment and ITE all combine to place particular stresses on urban science teachers. For each of these aspects, teachers’ quotations have been used to exemplify points. These quotations have then been analysed, drawing out my interpretations and linking with my line of argument with respect to identity. There are

three main ways I am drawing on identity within my line of argument. Firstly, I argue that identities may be contested, that becoming an urban science is not meeting some teachers' expectations; for example, one's science identity is being eclipsed by becoming an urban teacher, with respect to the curriculum. Or, secondly, that different dimensions of one's identity (in this case the professional identity) within Day et al.'s (2006b) model become dominant and, consequently, negatively impact on one's identity stability. Or, thirdly, a hybrid of the two, where the different identity dimensions are in conflict, say the professional and personal identity, such as in the case of Louise, discussed in section 5.1.5.

As I commented at the start of this professional identity chapter, this is the briefest of the three identity chapters. This is due to the fact that in the interview data shows the teachers frequently discussed their experiences of being an urban science teacher through the lens of the situated and personal self rather than the professional. In analysing the data, I felt that the teachers' comments aligned with their situated and personal experiences more than their professional selves. It is also noticeable that the teachers raised professional identity issues that might affect others' retention or attrition, rather than their own. In this respect, I interpret the professional dimension as providing a stressful backdrop that exacerbates teacher attrition without specifically being the 'straw that breaks the camel's back'.

In the next chapter, I move to discuss the data I collected and analysed with respect to teachers' situated identity, the self within the school.



## 6. Findings II

While the previous chapter on professional identity focused on how policy can impact on teacher identity and attrition, the situated dimension of one's identity refers more to the impact of the workplace itself; in this case, the school. As discussed in section 5.1, which referred to the professional dimension, teachers felt that the impacts of government policies were dependent on the school's response to and enactment of the initiatives. In this chapter, I argue from my analysis of the data that the situated dimension of one's identity was more influential on teacher retention or attrition than the professional dimension. This argument of relative dominance, of one identity dimension, introduces the concept of balance/imbalance within the three identity dimensions.

As stated previously, I have organised my three data chapters to reflect the relative 'weight' of the three identity influencers. Governments issue policies (professional influencers); senior managers, and in turn middle managers, respond to the policies (situated influencers); and the managers then transfer their response to individuals in their teams (personal influencers). Brianne and Jane describe this transfer of influences on to one's identity; for example:

Senior management pass their pressure on to middle managers and middle managers pass their pressure onto us. Someone said to me the other day, 'Your emergency doesn't become my emergency', but in this school it does, you know, that is the ethos. You know, there's some time or something that someone higher up has to fill so their emergency becomes the next person's emergency becomes the next person's emergency until you get to the bottom which is the general teachers who are just overloaded with everybody else's emergencies (Brianne 2).

By cross-referencing Brianne and Jane's second interview, I believe when Jane said 'Your stress isn't my stress' (Jane 2), Jane was the 'someone' Brianne was referring to in her 'emergency' quote above. The point to draw out here is the transfer in identity influencers. Despite central policy makers dictating much of what goes on in the school, my analysis of the data showed that what teachers are concerned with is how their school responds to those external influencers. These school responses can have positive or negative effects on individual teachers. I argue in this chapter that a positive situated response will redress the balance that the professional identity dimension introduced, and

therefore increase the likelihood of retention. That is to say, if a government policy is enacted by a school in such a way as to ease the introduction of the policy, teachers are more likely to remain at the school. Conversely, I contend, a negatively situated response can further inflate the level of identity dominance and the resulting imbalance and, therefore, possibly contribute to attrition. In other words, if a government policy is introduced, this can increase dominance in the professional dimension; if the school adopts the policy without considering the impact on staff, then the situated dimension will also increase. Two dominant identity dimensions result in greater imbalance and may therefore lead to attrition.

## 6.1 Situated Identity

I identified two main factors within the situated dimension: the influence of pupils and management within the school. In this chapter, I argue why the teachers' data suggests that these situated influencers could contribute to retention or attrition, depending on how they restore or increase imbalances within the identity dimensions.

### 6.1.1 Pupils

#### 6.1.1.1 Liking urban pupils

The first positive influence contributing to the retention of teachers is that, despite the previous discussion of how difficult the teachers perceived their role to be, without exception all five teachers repeatedly said that they liked the pupils they taught. The media often portrays urban young people in a negative light (BBC News 2011, 2013a); however, the participants frequently identified the children as the reason they entered the profession and were often the main reason they remained in post. In his first interview, Bob said:

I think urban kids get a lot of bad press. That's what I would say ... I mean our kids are rowdy, but they are also vibrant and they're annoying as hell but they have something about them ... they turn out to be really good people (Bob 1).

In the same vein, Brianne said: 'there is this amazing thing of working with an incredible diverse group of young people ... it's a big challenge and for me that's a good challenge, a challenge I like' (Brianne 1). She also spoke of continuing to know them after they had

left school and what they went on to achieve in life. Louise stated that ‘I like the kids when they have massive personalities’ (Louise 1).

John described how his fondness for the pupils had developed as he had gained experience: ‘I found it got better, because the kids are used to you and they get to know your style or your face or whatever’. He went on to say: ‘I really enjoy the kids. I like the kids we’ve got ... You get attached to them ... You start to see brothers and sisters of those that you have taught’ (John 2). Over the time John remained at the school, he felt he enjoyed being recognised by pupils and earning their respect. Jane, too, regularly talked about the pupils in the school: ‘in the classroom, with the kids, I want to be the best teacher I can be and I think that’s a pretty damn good job’, and then continued: ‘the kids are enough to keep me motivated’ (Jane 3). Again in the following interview: ‘Massively, they’re my motivation, it sounds cheesy, but they’re kind of my motivation to stay here’ (Jane 4). Jane’s passion for working with young people was evident throughout her interviews. In her final interview she said: ‘I think you’ve got to be more than a teacher if you teach in a school in a slightly deprived area’ (Jane 5) – meaning that one needed to be a teacher, social worker, care giver and more. In addition, she suggested that teachers needed to be committed, flexible and adaptable, they must also care: ‘You’ve got to care, definitely got to care a lot, genuinely care. You’ve got to have some sort of passion and empathy for children’ (Jane 5).

#### **6.1.1.2 Urban pupil complexities**

For all the positive aspects the teachers mentioned concerning urban pupils, the teachers also recognised that their pupils could also often be complex, and it is these complexities which could further influence teacher retention/attrition. It is worth noting that the complexities that urban pupils can present might not inherently lead to teacher attrition. In section 6.1.1.5, it is shown that how the school responds to and manages urban pupils is a key contributor to teachers’ decisions to remain in post.

#### **6.1.1.3 Pupil mobility**

In urban schools, pupil mobility can be high for a number of reasons: children moving home as they move between social housing; in and out of/between care homes/care facilities; between separated parents and within extended families. It might be expected that this turnover would impact on teachers establishing consistency and developing

relationships with classes or individual pupils. However, while teacher turnover was mentioned all too readily, conversely, pupil turnover was barely ever discussed. The complexities related to urban pupils which the teachers did acknowledge are explored below.

#### **6.1.1.4 Pupil diversity, need, background**

Maguire et al. (2006) suggest that ‘Some aspects of diversity, particularly those related to culture and ethnicity, are more likely to characterize inner city urban classrooms’ (p.86). Pupil diversity is often cited as one of the challenges of urban contexts (Solomon and Sekayi 2007; Settlage et al. 2009) and, indeed, teachers do need to be able to respond to these pupil differences. While the teachers acknowledged the diversity – for example, ‘diverse cultures and feelings and thoughts and ideas and misconceptions and all of those things’ (Brianne 1) – they also saw this variety as the ‘colour’ they liked within their role (Louise 1). Liking the ‘colour’ is, again, likely to contribute to teacher retention.

One of the topics that emerged from the data was how pupil diversity contributed to a variety of children’s preferences and the degree to which these aligned with various school practices. For instance, Brianne mentioned that the school had ‘media and arts status’ (Brianne 2), and some pupils came to the school specifically for this specialism. She spoke of pupils who had aspirations in the field of creative arts and were focused on that, such that she felt she needed to promote science ‘every day’, in order that it might feature on the pupils’ horizons.

... particularly in this school because this school is mainly an art school so therefore the kids just, their interest lie in media and art and that kind of thing, traditional that’s what the school’s been there for, it is difficult for us to promote, every day is kind of promote, yeah we want you to do this as well (Brianne 1).

Here it could be argued that there is challenge within identity constructs. I suggest a science teacher may want to share their passion for science, yet their first hurdle might be motivating the pupils to engage with that science. The quotation above from the first interview with Brianne shows that some pupils with an arts specialism attended the school and that science was not their main focus.

School specialism aside, urban pupils may well need more motivation to engage with science, as Calabrese Barton (2001) and Tobin (2000) have described, and recognise the relevance of science to them as urban pupils. Urban pupils may not ‘automatically’ identify with science if the level of ‘science capital’ at home is low (Archer et al. 2012). This engagement challenge could help to drive some teachers and help retain them, like Jane, for example; while others might find such a demand too great and too much of a compromise of their science identity, so might contribute to the likelihood of attrition, such as in the case of Louise.

The teachers also mentioned parents as impacting on their urban science teacher role. Brianne mentioned that some parents had not had a positive experience themselves at school, or specifically with science when they were at school. She suggested that such parental experiences could be projected on to children, both wittingly and unwittingly. ‘And I think parents themselves had very, and this is a generalisation, but generally speaking they had a very negative science experience at school’ (Brianne 1). If parents hold a negative view of science, this can result in conflicts between home and school, and such conflict might result in poor support for science teachers from home. Brianne described ‘trying to get around the whole negative aspect’ of parents’ views as difficult. While none of the teachers specifically cited parents as a reason for leaving, however, some parents can add to the challenge of the difficult context which builds up over time.

Jane talked of parenting skills and the consequences of differing expectations between home and school, describing how parents do not always support teachers’ or schools’ decisions and actions. ‘You come across some few unfortunate parents who mainly don’t care, and some of them you can’t get hold of when there is a behaviour problem (Jane 1). This again, as mentioned above, can add to the challenge of the difficult context which builds up over time and might influence teachers’ decisions to remain or leave the school.

Pupils’ backgrounds reach beyond their immediate homes; they also include their communities. Bob raised the point that some of the pupils from the local community are members of a number of religions. He felt that different religious backgrounds influenced pupils’ approach to science:

... we have quite a high black population and Turkish population, so Christianity and Islam in here is quite high, so that always quite shocks me which I never really saw in my school as a kid that ... people who go

... ‘That’s not true’. You know, that kind of thing. You really have to get past that fundamental thing of ‘What you are talking about contradicts the Bible and therefore what you’re saying is not true, not true, not true, not true, not true’. And trying to get past that especially with the new science course they are looking at – well what’s the evidence for that? Blah, blah, blah, without making it seem that you are directly attacking what they believe in, despite the fact you are (Bob 1).

Again, this quote implies a level of discrepancy that urban science teachers encounter. While Bob did not suggest this challenge personally led to him re-evaluating his position in the school, it again adds to the challenge of the difficult context which builds up over time. A teacher’s science identity may be challenged by pupils’ religious identities, and this may add to the complexity of sustaining the urban science teacher role.

Additionally, the teachers described the complexity of the pupils’ urban lives. The teachers were keen to point out that urban pupils often had preoccupations other than school and learning about science; for example, ‘they have a lot going on outside, in their lives’ (Louise 1). ‘They have so many more immediate problems that are much more important to them at that particular moment’ (Bob 1) and on a rather more frank note ‘Why are we checking people’s books when people are killing each other with knives?’ (Jane 1). All of these other potential urban pupil preoccupations may provide a challenge to the science teacher identity, where science is obscured from the scene. Such obscuring and sidelining of science may again contribute the evolving picture of the challenging context of urban science teaching.

Bob also talked specifically about teaching science in an urban context. In his first interview he described how many of the pupils had very limited knowledge and experiences to draw on. Science concepts can appear very alien to urban pupils (Calabrese Barton 2001), and Bob pointed out that much of his job involved relating seemingly abstract science to his pupils’ everyday lives. He specifically mentioned ecology work and the difficulty of getting pupils to comprehend much of the curriculum content that might be more accessible to non-urban pupils. While this challenge might not provide identity conflict, it might require an increased level of effort from the urban science teacher. Such effort requires motivation and commitment; teachers’ assessment of their own commitment may lead to decisions about remaining in post. Jane supported this notion when she discussed the concept of ‘natural ecology’ and the need to find ‘urban

ecology'. However, conversely, Jane also reflected on the richness of the city as a teaching resource: 'I mean being an urban science teacher allows you so many more opportunities to take the kids outside of school. I mean if you look around ... there are so many places you can take students' (Jane 1). All of these opportunities provide reasons to remain teaching in an urban setting. In other words, there is no simple causal factor; there are, however, several influencers which add to the complexity of the situation.

#### 6.1.1.5 Pupil behaviour

As mentioned above, these teachers liked the pupils. They did not, however, consider their pupils to be angels. Pupil behaviour is a major cause of apprehension for those entering the profession (Smart 2006) and is often reported as the reason many leave the profession (Smithers and Robinson 2001). However, as I talked to the teachers, it emerged that the issue of pupil behaviour was more complicated. The teachers did talk about pupil behaviour and commented on whether they perceived it as getting 'better or worse' in the school. There were a few extreme examples mentioned where poor pupil behaviour led to personal safety concerns, but on the whole what was emerging as key to these five teachers' retention/attrition was how school managed/responded to pupil behaviour.

These extreme examples were shared by Brianne, Jane and Louise, all women, who reported they had either been on the receiving end of direct verbal and/or physical abuse from pupils or had been caught in the 'crossfire' between pupil altercations. Brianne talked graphically of being involved in knife crime incidents that took place in another London school she had worked in and said, 'I've come home with bruises from breaking up fights' (Brianne 1). Louise described confronting a pupil holding a large sum of money, his response was that 'he just went mental' and another who gave her a friction burn from snatching back a confiscated hat (Louise 2). The third example came from Jane:

Jane: a month, six weeks ago, I was abused in the street by an ex-student, who was excluded. He was in year nine, he cut a kid in my class with a pair of scissors, he wasn't excluded 'cause of me, he was excluded because of himself, so ...

**AM: But you were, you ...**

Jane: My point, and he abused me, you know, in the street.

**AM: But you knew that he had got excluded, is that, I mean ...?**

Jane: Mm-hmm, mm-hmm.

**AM: And he felt it was your fault?**

Jane: He was in my lesson when it happened. I, I wasn't the one who got him excluded, but I wrote a statement to say there was no ...

**AM: Right, so he felt you were ...?**

Jane: Well, he's just, yeah, there's no responsibility, is there?

**AM: Yeah, no.**

Jane: Basically, you know, he, he was telling his, and he was calling me racist and he was abusing me in the street, quite severely, you know, and his, and his little mates, they were calling me to come back ...

**AM: Verbally?**

Jane: Yeah, massively, yeah, but ...

**AM: And you just walked away?**

Jane: Oh yeah, I kept walking, I thought ...

**AM: And they didn't ...?**

Jane: No, they kind of, you know, and then another time, I went out to get a coffee with a colleague of mine, he's a really big guy in, in the school, a big black guy and I went to get a coffee and this boy was looking at him and going, what are you doing with that snake and that's the kind of abuse that I'm, and he's like, yeah, you know, the teacher I was with, whatever, um, and that's the kind of abuse, there is a lot of abuse like that (Jane 4).

However, despite these quite horrific stories of particular incidents, it would appear that the teachers took issue with the way behaviour was managed or not, rather than the behaviour itself. The school systems were seen as non-existent, inappropriate or inconsistent. Different members of the senior leadership team (SLT) were thought to respond differently to incidents, and it was this that angered/depressed the teachers more than the actual pupil incident.

It just feels like it's inconsistent, something more minor would happen and they exclude a child ... And that's frustrating, like the children's



behaviour is inconsistent as a result ... yeah, it depends who picks it up ... it just needs to be consistent and they don't talk to each other, senior management as a team ... you want something done, you always go to [named member of SLT (senior leadership team)]' (Louise 2).

According to Louise, the poor management of pupil behaviour has resulted in no long-term proactive impact on improved pupil behaviour. The underlying concern surrounding behaviour rested with the school management, not the children. Quotes like that of Louise above suggest discontent, and can contribute to teacher attrition. The reasons appear not to be directly related to pupils' behaviour *per se*, but how this behaviour is managed within the school. Having described pupils as one of the main reasons to remain in school as an urban teacher, how urban pupils are managed has emerged as another influencers of teachers' decisions to remain in post or not. Within the situated dimension, we now turn to school management.

### **6.1.2 School management**

The second overarching theme of the situated data is that of school management. This is another influential factor in teachers' decisions to remain in post. Management is the conduit for the impact of external factors within the school. Managers must ensure government policies are implemented, and take responsibility for pupil outcomes. One way to conceive teachers is as the agents that receive the policies and deliver the outcomes. Therefore, how well teachers feel the school and individuals within it are managed is key to teachers' feelings of commitment to their teaching position.

In this section I take school management to include the teachers' reflections on the headteacher, senior leaders and middle managers within the school and their perceived management skills. I also include some self-reflections that the teachers contributed regarding their own management experience in the school.

#### **6.1.2.1 Headteacher/leadership teams**

Leadership is pivotal to a school's success (Donnelly 2003), and the participants claimed that the headteacher was an influential attraction to the school when they first applied for their posts. For instance, Bob (2) described how, at interview, he liked the things the head was saying. Similarly, Jane (2) commented on the job offer phone call from the head

being ‘really genuine’. However, if the head is one of the initial draws, this can also pose problems. Louise (5) described being let down by her perceptions: ‘the head sold an ethos to us ... a creative school and then went back on that’. One of the primary problems arose when the appointing head moves on; Jane and Bob talked about the impact of a new head on the school.

I don’t have a massive personal issue with the head, she’s doing her job, whatever, but there are people I have spoken to who cannot stand her, because they say she is killing the school ... She’s killing the ethos of the school ... It’s difficult to say, I feel, I don’t know if she doesn’t fit with the ethos, I find that really harsh to say, but I think her ethos is not, I don’t think she’s got the staff behind her, yeah ... She’s leading the school and she’s going, where’s everybody, oh come on, [laughs], being dragged along ... You know, beating you with a stick to make you come, I don’t think everyone feels, yeah, you’re so ... People can’t stand her and I don’t feel people are inspired by her (Jane 4).

I think Jane’s opening claim is that her concerns about the new head are on a professional level and not a personal level. However, it could be interpreted that she starts by claiming to be representing views of others then continues to talk as if she is sharing her own views. While ownership of the views is unclear, what is clear is that Jane feels there is disaccord between some teachers and the new head. Bob further added: ‘She doesn’t really inspire much trust in people ... I think there is a broken relationship at the moment’ (Bob 4).

In addition to the importance of headteachers (Donnelly 2003), the data collected, which was in line with the literature, suggested that the leadership team influenced the management of the school (Harris 2002; Hatcher 2005). The teachers suggested a major source of their unrest lay with the SLT. In her second interview, Louise complained of numerous serious incidents of inappropriate pupil behaviour and violence having been dealt with inconsistently (see section 6.1.1.5 above).

It was reported that managers’ inconsistency applied to the treatment of both pupils and teachers. The teachers did not feel they were all being treated equitably. Jane (4) described having been observed, in what she called ‘Mocksted’, and received a grading of ‘satisfactory’. She was informed she would need to be observed again as a result. At the subsequent lesson observation she was again deemed ‘satisfactory’. After this second

observation she was informed she would be observed repeatedly until she achieved ‘good’ or ‘outstanding’. At no point did she feel that support was offered to become ‘good’ or ‘outstanding’. The inconsistency arises when, in the same interview, Jane describes her understanding of Bob’s Ofsted observation. Bob was observed during the Ofsted inspection period and was the only member of the school whose lesson was considered to be ‘Unsatisfactory’. As far as Jane knows, this was not followed up in any way. Jane felt this lack of follow-up was inconsistent and unfair given her experience of follow-up observations as a result of her ‘satisfactory’ ‘Mocksted’ observation. In addition to perceived inconsistency, this story also suggests poor support for Jane and even a punitive regime for some.

Ironically, the process of repeat observations was interrupted by a formal Ofsted inspection, although Jane was not observed. After the inspection, the school no longer seemed interested in the continued observations and a further observation was not scheduled. Jane chose to follow up the pre-Ofsted experience and requested that the same observer watch her teaching the same class. On this occasion Jane was considered to be ‘good’. These experiences do appear to suggest that the school were either inconsistent with how they treated staff or only interested in getting data on lesson observation prior to an Ofsted inspection. Indeed, neither interpretation presents the SLT in a positive light, and they convey Jane’s deep sense of personal disaffection.

Additionally, these judgements made about the ‘quality’ of teachers’ lessons will arguably affect teachers’ identity. If a teacher’s lesson is judged and labelled ‘satisfactory’, teachers might construe this as an overall judgement of their capabilities. Within the Ofsted regime, ‘satisfactory’ has recently been replaced with ‘requires improvement’, an even more damning label of one’s practice. I would argue that these situated judgements and lack of support to improve will impact professionals like Jane’s teacher identity.

Independently, Bob told me his experience. He returned from two weeks holiday plus two weeks paternity leave to learn that Ofsted were inspecting that week.

I’d made a calculated risk of going, this is quite a bad class and the inspector was at the door and I thought, well, this is Thursday morning, they’re quite a bad class, so if I get the observation over and done with, then it’s done, I don’t have to worry about anything else, so I was like,

come in. Got an ‘unsatisfactory’, ‘cause it was a terrible class, terrible, my year nines, awful ... (Bob 4).

This could be interpreted as a self-worth management strategy (Jackson 2002); however, Bob was worried that his risk had not paid off; he worried he would have to be observed again. However, unlike Jane’s scenario above, the outcome was that the headteacher asked Bob if he would like ‘a second chance’ to be observed again by Ofsted; he declined the offer. He suggested that he declined the offer because he felt the school were not that concerned by his ‘rating’ (see the quote below).

They were fine, they just went, but you’ve obviously just come back from ‘blah blah blah’ and ‘blah blah blah’ and it’s not a problem, everyone was like, fine, it’s not a problem ... We, we know, we know you’re better than this’ (Bob 4).

Irrespective of the ‘truth’ of Bob’s view, it does demonstrate a level of personal assurance in asserting that neither he nor the school showed any need for a repeat observation. While one interpretation of this is to see this as a positive and supportive stance adopted by the school, it is also apparent that Jane viewed this as inequitable. Jane’s lesson was considered ‘satisfactory’ in a ‘Mocksted’; Bob’s lesson was deemed to be ‘unsatisfactory’ by an Ofsted inspector, and yet they do appear to have had very different management reactions.

One point to draw out might be the perceived level of consistency from the SLT. Consistency was what ‘mattered most’ to the teachers in Cucchiara et al.’s (2013) study. Teachers working in ‘turnaround’ schools in the US reported on ‘the ways teachers felt they were (or were not) supported and treated respectfully by school leaders’ (p.3). However, the more significant point to draw out is how the inspection regimes and judgements force teachers to engage with emotionally charged identity work. Teachers must manage difficult/undesirable judgements; their professionalism needs to be re-performed, and this creates a pernicious ‘blame’ culture, bringing the teachers into conflict with one another. This point is significant, as such a hostile environment will not be a setting all will want to work in, if they have the choice not to.

In addition to the perceived equity issue, there is also the difference in teacher responses. Bob’s *laissez-faire* response could be interpreted as personal inner confidence, self-worth management or even apathy; while Jane’s responses are that she feels angry and let down.

These personal reactions will be explored more in the final findings chapter (Chapter 7) on teacher personal identity and notions of commitment and resilience.

A similar issue of fairness emerged regarding sixth-form teaching. When the 11–16 school opened a sixth form, there were obvious teaching implications; there would be more teaching to do and at a different level. As a relatively inexperienced department, most staff had little, if any, experience of post-16 teaching beyond their initial training. In the eyes of the participants, there appeared to be an agenda at work about who was assigned post-16 teaching, that there were some teachers considered more capable of teaching A-level than others; that management made decisions about who was and was not permitted to teach A-level. Some teachers wanted to teach post-16, while others did not; however, the teaching timetable appears to have been assigned without consultation/discussion, leaving teachers to question the fairness of the process. Jane felt that she was made to teach A-level biology even though she did not want to. She was not asked but simply told to take an A-level group and was not given any training to prepare her for the new challenge. Conversely, John was desperate to teach post-16 chemistry, yet was never asked and felt he was repeatedly overlooked. These two stories again raise issues related to management's perceived fairness, and the level of support and respect the teachers felt. The teachers appear to expect to be treated exactly the same, and where they are not they felt that the rationale was not effectively communicated. The related issue is also how teachers interpret and respond to these value-based judgements which are made about their professionalism. The extent to which teachers recognise and agree with these judgements impacts on the three identified elements; perceived fairness, support and respect. Evidence, or not, of these elements within the school can, I argue, give rise to an imbalance in the situated dimension of one's identity, therefore giving rise to instability and possible issues for teacher retention.

There is a danger in this section that the teachers' accounts could be seen as simply a list of 'moans', and that the teachers blamed the school management for everything. However, while I recognise that these accounts are the teachers' perception of events and are likely to be explained differently by others – the SLT, for example – it is also important to acknowledge that these interpretations are informing their identity construct as urban science teachers in the school and contribute to feelings of satisfaction/dissatisfaction. If the situated experience is leading to conflict and imbalance within the teachers' identity dimension, this may lead to issues for teacher retention.

During the data collection period, the teachers were made aware of the school needing to address various financial concerns, and these were to be addressed through workforce restructuring. The teachers' accounts of this experience again suggest issues that impacted on teachers' sense of commitment to the school. Initially, at a whole-school meeting the week before the Christmas holiday, staff were told that savings would be achieved by losing various positions within the school. 'We were told effectively 12 members of staff would be made redundant ... they averaged out 12 salaries, so it was from a deputy head to a learning support assistant' (Jane 3). These redundancies were supposed to be voluntary; however, staff were unclear quite how the reduction was to be achieved. 'It's all been a bit cloak and dagger here, not everyone knows everything that is going on' (Jane 3). This point was also mentioned by Bob:

Bob: It's been very ... they've tried to be transparent, but they haven't because they didn't, they left it a long time before telling us ...

**AM: Right.**

Bob: And then have been woolly ...

**AM: Mm-hmm.**

Bob: So we were supposed to have a big meeting a couple of weeks ago, to tidy it all up and so we knew where we stood and we still, still don't know.

**AM: Did, did the meeting take place?**

Bob: Yeah.

**AM: Okay, but it didn't achieve anything?**

Bob: It was, yeah, we still, we still ended up going, well actually, I don't actually find myself any clearer as to what's actually going on, in terms of, so that's still not very good and that's why the school as a whole, I think you'll find, is quite low at the moment ... (Bob 3).

John's story within the restructuring is the most complex. He applied to move from a full-time to a part-time teaching contract in response to the request for money-saving voluntary redundancy. John spent much of Interview 3 (15 minutes) getting round to telling me he had indeed contacted the head to express his interests: 'I have already written to the headteacher saying, you know, what, you know, I want these options, you

know, um, you know ... either reducing my hours or redundancy' (John 3). John then continued to talk and suggested he no longer saw himself fitting in the school. We discussed whether this might make it more likely that his application would be accepted. At the end of Interview 3, John did not know if he would still be at the school for the next round of interviews.

John was still at the school for Interview 4, and it quickly became apparent that he had not realised his request. John's application had not been accepted but had set in motion his departure from the school. John's request for a part-time contract was prompted by health concerns; he had felt teaching was affecting his well-being. John's sickness level and amount of absence had then become the issue for the school. It appeared that the school had used his sickness level to try to engineer his leaving the school without having to pay him redundancy.

**AM: So, um, it's the end of the summer term ...**

John: Yeah, thank goodness.

**AM: And [laughs], what's, what's happening, where are you at, what are you doing?**

John: Where am I at? [Laughs]. There's a good story (John 4).

John told me that further to his request he had to go through 'Stage 2 sickness'; a 'meeting, that basically, um, they, they do it when it's considered that, um, my absence is now affecting my ability to do the job' (John 4). Having had 25 days off as sick leave in a year, he was given a date to improve by. When I asked if he had met that target, he said he had missed it by one day.

Which is now why they're calling me back again ... Err, you know, because they're going to, they're going to try and say, well, I haven't made the target, therefore maybe they'll dismiss me, you know ... (John 4).

The subsequent conversation was somewhat cryptic. John gave the impression that he knew he was leaving but was not able to talk about it:

John: You know, but there's other things going on, because there's another, I'm trying to leave via, it's basically redundancy ... But they're doing it in a different way, you know ...

**AM: Right?**

John: Which I can't say what it is, yeah? (John 4).

The vagueness continued, the unions and learning trusts were mentioned. The result was that John felt 'unsettled':

John: I would like to have left, you know, just, you know, very, err, err, smoothly, you know ...

**AM: Mm-hmm.**

John: By ..., you know, have good memories of a school...

**AM: Yeah.**

John: And all this kind of thing and I think it's completely unnecessary ... (John 4).

It was not until the final interview that I learnt of John's fate. He said a compromise was reached:

... it's an agreement basically saying, you know, both parties to walk away from a contract ... the idea is that it is supposed to be like a neutral thing, you know, not a neutral thing, a mutual thing, yeah (John 5).

He told me that with the support of his union a reference had been agreed where his sickness was not mentioned.

I found it difficult to probe too deeply into such a personal matter, and it is difficult to make judgements when you only have one side of a story. However, from John's viewpoint, he describes a less than supportive departure from the school. Bob and Jane, uninitiated, provided an extra viewpoint.

[John] is going, that's a slightly more tricky thing, he wasn't handled particularly well (Bob 4).

[John] would probably define it as bullying ... If I'm honest with you, I think they wanted rid of him' (Jane 5).

This story, told through various viewpoints, also shows that attrition is not always a clear-cut matter of teachers deciding to leave; any involvement of multiple individuals results



in ‘messiness’. There are no straightforward reasons why teachers remain in post or leave; I am arguing that there are three identity dimensions in play and how individuals and schools manage these dimensions as they ebb and flow is an indication of the whether they will be retained in post and/or the profession. John initially made a personal decision to move to a part-time contract as he began to question his ‘fit’ in the school. However, the school’s situated negative response then overshadowed his initial personal decision.

The overarching point conveyed by all teachers is the lack of confidence in the SLT; they describe feeling unsupported, therefore providing a dissonance in this situated identity dimension.

The experiences described above focus on the senior management within the school; the cascade of responsibility then falls to middle management; specifically, the role of the head of science (HoS), to which we now turn.

#### **6.1.2.2 Middle management/head of science**

The science department’s high turnover was apparent throughout the team, not least in the role of HoS. When I first contacted the school via the HoS, Jane was acting in the post. She had been asked to take on the acting role for a year: ‘they had advertised it twice, nobody was worthy of being it, and they asked me, would I do it temporarily, and I think I was a bit flattered to be honest’ (Jane 2). It did not take Jane long to realise she did not want to continue in the role; she completed the agreed year, but resigned the HoS position at the end of the 12 months. A new HoS was appointed externally but subsequently struggled:

Currently our head of department is very unorganised and under enormous pressure, you know to get results in a very quick period of time, and it’s not going to work (Brianne 2).

In Louise’s second interview, she felt that Jane’s replacement ‘doesn’t listen ... doesn’t have very good discipline’ and apparently did not have a very high profile, as the pupils did not know who she was. This negative view was not universal: John felt progress was being made ‘I think she is doing a good job ... overall you can see things are getting done’ (John 2). Jane’s successor did not remain in post long; she ‘found it more difficult than she thought she would ... and stepped down’ (Bob 3). By resigning the role and adopting

a teaching-only contract, the HoS post was relinquished and again became vacant. This time, senior management made a strategic internal appointment.

The faculty head of performing arts, a dance/PE teacher, was appointed as HoS. It was felt that her management skills were an asset that could be well used in the science department. Despite her lack of science background, all the teachers appreciated her in the role.

She's, I mean, would it be slightly easier if she was a science specialist as well? Yes, of course, but actually, so things she does, so there are some things she does which, you know, aren't sometimes quite right, 'cause she doesn't have the background science knowledge, but in terms of running the department, managing the department ... She's very, very, very, very good (Bob 3).

Jane had some initial reservations:

It's kind of a bit weird, 'cause sometimes, I don't think she fully appreciates, not intentionally, but I just don't think she always fully appreciates how long things take (Jane 3).

However, Jane also recognised the new HoS's managerial competence.

Oh yeah, she's very reasonable, she's very supportive. I mean, what she says goes, you have to do it, but if you have any trouble, she doesn't want to cause you, you know, she, she's fair but firm, I would say ... (Jane 3).

Both Bob and Jane were much happier with the management of the department at our third interview.

I was fascinated by this appointment for several reasons. Firstly, that no adequate scientist internally or externally could be appointed; secondly, the resulting decision to appoint the head of performing arts as HoS; and thirdly, and most significantly, the apparent success of the appointment. Not being a subject specialist appears to be surmountable. In the first year, she was merely managing and not teaching science; when appointed permanently to the position she was required to teach science; however, as Bob put it:

Yeah, her science, I mean, I don't really care about the science, to be honest. I mean, is that really important? I mean, she is teaching science,

but she's taught, done her Science A-Level, you know, I think she did some science at a degree level, some biology, um, and it's GCSE and BTEC [Business and Technician Education Council] she's teaching at Key Stage 3, I mean, how difficult can it, you know, I've, she's an intelligent woman, she will have no problem with that (Bob 4).

Having a strong head of department (HoD) who could manage well and who remained in post for more than a year had a significant impact on the department: teachers felt more supported and happier. When the teachers were asked about assuming the role themselves there was a resounding negative response. Jane had already attempted it, and reported repeatedly how much she had hated the role ('I'd rather pull my eyes out' (Jane 3)) as she did not like managing people or having to enact diktats from above that she did not agree with. Brianne and Bob both admitted they had seen what it had done to others and did not want to take the role on themselves. Brianne claimed she was 'too tired' while Bob reflected that he was 'too wishy-washy'. It transpired that Bob had applied for the position but was unsuccessful. He was told he lacked leadership experience. However, he also said, 'the more I see how much work [the HoS] has to put in to it, the less I want to do it' (Bob 3).

This example suggests that good management is multifaceted: one must have good management skills and must provide stability to the department by remaining in post long enough to impact positively on the department (Busher and Harris 1999). The question here is why none of the participant teachers seemed able or enthusiastic about embracing the HoS role, despite acknowledging the need for a good manager for the department. One interpretation is that the teachers felt they lacked the necessary skills; another is that they felt the rewards did not outweigh the increased responsibility of taking on the role. One possible consideration might be that having considered the challenges of urban science teachers (Chapter 2), adding a leadership role into the equation is another level of complexity that is too much for these teachers. This instability and uncertainty surrounding the HoS role further inflates the imbalance within the situated dimension, while also impacting on teacher attrition. Insecurity and fragility in teachers' line management can lead to low job satisfaction, therefore contributing to their decisions to leave.

### 6.1.2.2.1 *Management systems: communication within the school*

Further to the above section on managers, this section considers the specific area of how communication is managed within the school, including modes of and teachers' perceptions of communication. Effective communication is key to developing good relationships between various members of the school community. How well teachers feel they are managed and communicated with can be a fair indicator of how involved they feel with the school. I would expect that high levels of involvement and clear communication should increase teacher commitment and therefore improve teacher retention.

Schools are very busy places and there are often many messages that need to get to various recipients throughout the school day. City School had a public address system in all classrooms. Despite the intrusion I felt when messages interrupted interviews, the staff seemed to be able to tune in and out of the announcements. When I enquired they said they recognised the need for such a system and not find the voiceover an interference or an intrusion.

Numerous staff meetings took place: department meetings, morning briefings, whole-school INSET (in-service training) days. When I asked the teachers about the science department meeting, the responses implied that they were less than memorable; under the old HoS, for example:

**AM: And how often do you have meetings?**

Louise: Once every ... we have meetings every week, but science meetings once every couple of weeks, can't remember ... once every three weeks?

**AM: And what are they like?**

Louise: Dire.

**AM: What does that mean?**

Louise: And there are no ideas to share, no good practices ... just ... I can't even tell you because I don't even engage in it.

**AM: So you can't really remember, they're every three weeks, but you can't actually remember?**

Louise: Just stuff to do, it's always like you need to do this, you need to do that (Louise 2).

In the same interview round, John informed me that they had department meetings every two weeks but that the management would like them to be weekly whereas Jane claimed they had one meeting every half-term. The fact that the teachers do not even agree on how frequently the meetings take place show they are not high on their priorities. Jane, like Louise, described them as being 'a lot of information-giving to be honest' (Jane 2). When asked if any dialogue was involved she said:

People get an opportunity. Some people are so knackered, they'll just sit there and take it ... waiting for the hour to pass and then leave (Jane 2).

The teachers suggested that face-to-face meetings were not well managed and therefore not a good use of time. The morning briefings, twice weekly, were mentioned as a quick way to get information transferred; however, teachers were frustrated that the same information was then e-mailed to all staff. While I can see from a management point of view this ensures all staff receive the relevant information for the day, even if they did not attend the briefing, e-mails were by far the most irritating form of communication according to the teachers. They felt that too many were sent, especially e-mails which they were unnecessarily copied into:

That's another thing about school e-mails, you get hundreds of e-mails and none of [them] are really to do with anything you can do anything about (John 2).

John thought he received 20 e-mails a day and rarely were any of them addressed directly to him. The teachers also spoke of mails being sent with unrealistic timeframes, asking for something to be done while they should be teaching or suggested that sending the mail was in some sense seen as doing the task. As the data collection period progressed, the teachers offered me other modes of communication with them, as an alternative to their work e-mails. Ironically, work e-mail was not seen as an effective way of communication, despite its sole purpose being to improve communication.

The above accounts show that the teachers did not see communication within the school in a positive light. Communication was considered to be ineffective and, in the case of meetings, not a good use of their time. While workers in many workplaces could make

this same complaint, it makes it no less important that this is how these urban science teachers felt. Poor communication adds to the ‘noise’ that accumulates from multiple sources to generate feeling of disaffection within the teachers. This heightened disaffection enlarges the situated dimension, increasing the imbalance between dimensions that can aggregate instability and, perhaps ultimately, the attrition of teachers.

I interpret the various sections covered so far, and to follow, as more than just teachers’ whingeing; these urban science teachers are conveying deep negativity. The data portrays a culture of both passivity and complaint, which is not a good combination for constructing and maintaining a stable teacher identity, and subsequently holds heavy implications for teacher retention within the school.

#### **6.1.2.2.2      *Management systems: Administration***

In this section I consider the teachers’ views on how administration is managed within the school. There are a large number of administrative tasks associated with the teaching role. The Workload Agreement of 2003 sought to address teachers’ excessive workloads. Among other things, it included a list of 21 administrative tasks that teachers should not do. While the intention of the agreement is laudable, my participant teachers still took issue with the level of paperwork and bureaucracy in schools and reported these frustrations. In many interviews, paperwork or bureaucracy was mentioned, for example: ‘in a school, you know, the worst part is all the paper’ (John 5). In an earlier interview, John discussed the administrative support available, and whether he considered it to be realistic:

Well, what it is that, when, when I’m supposed to do certain admin things, but in the school like this, we have one admin person, and there is a huge ... every time there is a change around in the schemes of work, that one admin person is supposed to photocopy resources for loads of lessons, and it just doesn’t work, and you end of thinking they should have double the admin role at least, or we should have a week where all the teachers do admin, get it all sorted and it’s all done. It’s just a huge amount of ... So in terms of my life, we get told off where we shouldn’t be doing certain things, like the head of department or one of the deputy that we should be doing that, it’s an admin job, but what’s happens is that, is that you end up, there are things that you still have to do as a teacher, you know that

you have something to photocopy rather than give it to somebody who has got a list, you do it yourself, its quicker so that hasn't changed (John 2).

In the final interview, Brianne mused on what advice to give to new teachers:

I think, there's so much worry about bureaucracy and paperwork and, and all those implications, I think maybe just think about how you can get around those, to just get back to ... not losing the passion, I think we all become science teachers because we're passionate about it... And it's about not losing that passion, I think ... And how to avoid the paperwork [laughs], ... because the paperwork brings you down ... and it kills your passion for it (Brianne 5).

So, while the school had embraced the notion of the Workload Agreement in providing an administrative assistant for the science department, the teachers still reported that such tasks were falling to them to carry out. The teachers felt there was still not enough administrative support and what was available was not always effectively optimised. Either way, the teachers reported that administrative tasks detracted from their main goal of classroom teaching. Not only is classroom teaching their main goal, but also their *raison d'être*. These teachers joined the profession to teach and constructed their identities, across all three dimensions from that standpoint. Seeing themselves as being driven and constrained by administrative tasks arguably sets up conflict between their identity dimensions. I would argue that this identity conflict needs to be addressed to re-establish the balance in order to help retain the teachers in post.

#### 6.1.2.2.3 *Management systems: Teaching outside of science specialism*

In this section I consider the teachers' views on how teaching specialism is managed within the school. The school science curriculum is made up of content from the three sciences: biology, chemistry and physics. In the UK, individual schools choose how to teach the three sciences. In some schools, subject specialists teach each science. In others, like City School, all teachers teach all three sciences up to GCSE (age 16), regardless of their own subject specialism. There are some concerns regarding teaching outside of one's subject specialisms (Smart 2006); these mostly revolve around the quality of teaching and learning. However, here I suggest there might also be an impact on teacher retention, albeit in complex ways. The five teachers did not often discuss this aspect of

their teaching, and on the rare occasions when the topic did arise, there was little consistency of views. Bob, a biologist, in Interview 2, was enthusiastic about teaching all three sciences; he felt he could empathise with pupils as he could recall finding other subjects difficult himself. Also, as mentioned above, Bob does not consider pre-16 science to be too demanding to teach. Besides which, Bob felt if he only taught biology, he would have to repeat lessons and that this would bore him.

In contrast, John liked to teach the same lessons repeatedly as he believed it reduced his planning time. As a chemist, he also reported he felt less confident teaching outside his specialist subject. Brianne was ambivalent on the matter and Louise said she ‘gets by’. Jane, a biologist, had changed her views over time, explaining: ‘I like teaching all three, yeah, I like teaching physics now, but I didn’t like it before’ (Jane 5). The differing views of these five participants indicate that urban science teachers are not homogeneous and need to be supported and managed to navigate their differences. If a school chooses to teach science a certain way, teachers are obliged to comply. However, I suggest that explaining the rationale for the choice and then setting up support systems for the teachers, such as team teaching or peer observation, might make teachers feel more aligned with the system. As has been previously recognised, such communication was not strong within the school.

The three management systems discussed above (communication, administration and requesting teachers to teach outside their science specialism) have underlying aspects that could affect teacher retention. This is because they demonstrate ways in which the teachers’ situated identity might be challenged. I believe that supporting teachers in school can counterbalance this challenge and therefore redress the balance within the identity dimension. I would contend that, in a supportive school, issues of communication and workload would not arise as challenges. It is this support to which I now turn.

### **6.1.3 Support**

A recurring and underlying theme within the data was the level of support the teachers felt they received from the headteacher, senior and middle managers, and colleagues. How supported individual teachers feel is paramount to their attitude towards their school. Cucchiara et al. (2013) found that a school’s culture of support led to teacher commitment. The teachers talked often about a perceived lack of support in school: support for themselves, of others and of one another. I have coded much of the dialogue



as being about support, regardless of whether the specific word is used. Support draws on notions of assistance, to provide both physical and emotional backing to the teachers, in order that they can carry out their role as urban science teachers. Given the challenges (described in Chapter 2 and this chapter) associated with the role of urban science teacher, the role is one that is not easy to sustain in isolation. Support, or lack of it, for these teachers is again a contributing factor in their relative dominance of the situated dimension. Such dominance can either have a direct or indirect impact on teacher retention/attrition. Below, I discuss a number of examples of teacher accounts where support has been lacking; on some occasions, teachers felt that this went beyond lack of support and became lack of respect.

Despite Brianne having extensive experience of urban science teaching, she was overseas qualified; she did not have Qualified Teacher Status (QTS) in the UK. As such, the school wanted her to achieve QTS. Brianne felt she was not supported to achieve this. Such a transition should not have been a problem. Overseas trained individuals can qualify for QTS through the ‘assessment only’ (AO) route in which, as the title suggests, there is no further training required. Brianne, having trained in Australia and with extensive UK experience, should easily have been eligible for the AO route and she ought to have been able to demonstrate that she met the QTS standards competently. However, the school did not offer the AO route and Brianne claimed that the school wanted her to complete a PGCE to become fully qualified – a course that she felt was inappropriate for her level of experience. Brianne felt the training provided by a PGCE course would have been redundant to her and not a valuable use of her skill set. She felt AO was a more appropriate route for her, but that the school would not accept this option. As I did not interview the SLT, I cannot verify whether or not this was their expectation and why. Brianne was also unable to say why the school would only accept a PGCE qualification. The important element, however, is this was Brianne’s perception of what was being asked of her. Brianne was clearly affected by the circumstances, as the situation was mentioned on all three occasions I interviewed Brianne. This perceived lack of support in gaining QTS contributed to Brianne’s decision to leave the school, as can be seen in the excerpt below:

Brianne: I became, I started to become very disillusioned, um, because they kept, you know, there's this whole thing about the QTS and stuff...

**AM: Mm-hmm.**

Brianne: Which was really, like even though it, it felt pointless to me, because it was like saying, you know, you've got all of this experience and you're amazing, you're all of these things, but actually, we want you, we want you to go back and do something that you did when you were at university ... it got to a point where my only choice was then to go (Brianne 5).

In a similar fashion, Jane felt that the school did not do enough to support John when he first joined the school. When John arrived as an NQT, Jane felt that there was no clear and coherent induction programme to support him; she was not the acting HoS when he joined the school. She believes if he had been better supported at the outset, he might not have been so badly treated at the end of his time at the school.

Jane also related the story of her second pregnancy to illustrate the lack of support she felt from within the science department. After a fall at work, an ambulance was called and early labour began in hospital. The labour was delayed but Jane did not return to work until after the baby was born, following her subsequent six-month maternity leave. The first contact from the school after the accident was after the baby was born asking if Jane could return some pupil work she had at home. I find it difficult to believe that no-one in the senior or middle management teams contacted her after the fall to ask how she was and if there was anything they could do – but if they did, Jane does not recall it. This account contributes to Jane's construction of a non-supportive SLT and subsequent impact on her situated identity.

Support is not just required from management equally, if not more importantly, teachers felt that there was also a lack of support within the science team. Jane recalled an e-mail she was mistakenly copied in on when on maternity leave. The e-mail asked people to contribute to a collection to buy her and the baby a present. Jane claims the e-mail said 'some people find it difficult to work with me ... not everyone gets on with ... didn't always agree with me' (Jane 2) but that they ought to do something. Jane said she 'replied all':

*Dear All,  
Please don't bother.  
Jane*

Jane claims there was never any follow-up from the school to the initial mail or her 'reply all'. Jane also did not follow it up, as she was too shocked at first and still in what she termed 'new baby mode'. When she was ready to return to work she felt the moment had

passed to clear the air. Clearly, the memory and associated feeling had not passed, however, as Jane is still retelling the story.

I am shocked at this story from so many aspects. The e-mail content, the fact she was copied in and that there was no response to her 'reply all'. Supportive environments are important (McIntyre 2010a) and if individuals do not feel supported, they are less likely to be content in their roles. This example reveals more than just poor support; I believe it shows a lack of respect. These teachers are all implicated in contributing to an arguably toxic atmosphere. Here we begin to gain insight to a very unhealthy work culture involving disrespect and hostility. Such practices and behaviours can only have a negative effect of teacher attrition; one would need incredible levels of resilience to survive in such an environment. And yet Jane did stay; in Chapter 7 I argue that personal characteristics and circumstances can ultimately tip the balance in navigating the negative dominance of the situated dimension.

### 6.1.3.1 Monitoring

Schools are measured in various ways and targets set. To work towards meeting these targets, the teachers felt heavily monitored:

There is a lot more monitoring in the school than there used to be which I think puts a lot of pressure on teachers ... I mean books are monitored, your markings are monitored several times a year, your lessons are monitored. We've had a department review every year, since I've been here, this place every two years, you know, yeah, absolutely, there's a lot of monitoring, I know that's really sickening some people (Jane 2).

Jane continued in the second interview to say that the 'constant monitoring' did cause her to consider leaving the school; and in a later interview lamented, 'all monitoring, monitoring, monitoring, accountability, monitoring to the point of craziness' (Jane 4). The implication was that Jane no longer felt that she was trusted to carry out her role as an urban science teacher. She feels her professionalism was eroded within the school through constant monitoring and the associated judgements, so that her sense of personal integrity is no longer recognised. I would argue that such constant monitoring within the school inflates the situated aspect of one's identity, which can ultimately lead to identity instability and imbalance and therefore teacher attrition.

The first specific example of such monitoring that teachers gave involved members of the leadership teams conducting ‘learning walks’. Senior and middle managers walked the school and observed the learning that was taking place. The walks included the corridors and classrooms. Teachers were informed when the ‘walks’ were planned to take place but not which route they would take. Bob (4) reported they took place ‘twice weekly’, though this was not corroborated by any of the other participants. Unlike individual lesson observations, which were planned and agreed in advance and were followed up with constructive feedback, ‘learning walks’ tended to gather wider views and were followed up in a more generalised format. This format was seen as less supportive of individual practice. For instance, while Bob suggested that learning walks could be used in a constructive and a supportive manner, in practice he experienced them as more punitive.

Bob: The general state of morale in this place right now, people don’t trust that it’s going to be done, I think it’ll be fine here, but the general feeling is that it’ll be used in a kind of pointy finger, you’re not doing your job properly, kind of way.

**AM: Okay, so it’ll be quite divisive?**

Bob: Yeah, well, the, the fact it’s being done is already quite, is, is quite divisive (Bob 4).

Bob felt that the ‘morale’ in the school meant that the learning walk practice was *de facto* viewed with a lack of trust and scepticism with regard to its purpose.

Another form of monitoring was ‘book checks’. At agreed points in the year, class sets of books were collected from teachers to review the marking/feedback taking place in pupils’ books. Rather than marking regularly throughout the year, both Bob and Louise navigated this system by marking their class books in time for each planned ‘book check’. This shows they adopted behaviours to pass the monitoring rather than mark regularly as was expected. It almost feels that the monitoring was having a counter-effect on these teachers.

In her second interview, Louise also mentioned classroom checks. It was not entirely clear when these took place or if they were part of learning walks, but she was clearly frustrated to be ‘told off’ for what she considered to be ‘stupid little things’. For instance, Louise had been reprimanded for not displaying on her wall a specific poster referring to GCSE grade boundaries. Her issues with this were manifold. Firstly, she did not consider

it to be a high-quality display; there was too much text on the poster and she believed, therefore, that the pupils would not read it. Secondly, the school expectation was that the poster should be displayed and that this would result in a positive outcome for the pupils. Louise could see no benefit from a display unless the content was used as a teaching resource. Thirdly, Louise was frustrated that this feedback was not useful as part of a lesson observation follow-up. She felt that her practice would have been improved by an evaluation of what was actually taking place in the classroom. This list of exceptions offered by Louise reveal a mismatch of views between managers and staff within the school (see section 6.1.2.2) and issues of poor communication between them (section 6.1.3).

Being monitored is not synonymous with being watched. To watch is an end in itself; one can be watched but that does not result in any further action. Monitoring involves a level of checking and scrutinising, to assess whether the individual being monitored is performing satisfactorily. On one hand, monitoring can be seen as an unobtrusive activity; an individual is observed as meeting a standard and consequently deemed fit to continue. However, it is rarely that simple; the very act of observing a teacher can prove stressful. The presence of an observing individual can affect both teacher and pupil behaviour; therefore, what is observed is not normal practice. Countering this variance is more easily managed in a supportive and constructive environment. We have seen on numerous occasions the atmosphere in the school/science department was viewed as neither by the participant teachers. ‘Everybody I talk to says it’s a very stressed atmosphere, strained atmosphere, people are frazzled, um, people are feeling under pressure, being watched, because there’s all this move towards, um, ticking boxes’ (John 4). Consequently, I contend that when monitoring practices are already seen with distrust, they could contribute to teachers’ decisions to leave. The situation is exacerbated if teachers feel there is more of this type of monitoring than in other schools, as was indicated by Bob when comparing the school with his wife’s new school.

Listening to the teachers, the cascade of government policy into schools appears to have significantly negatively impacted on teachers’ sense of autonomy. Prior to the introduction of the National Curriculum, teachers in the UK were, broadly speaking, free to teach children as they thought appropriate. There are now numerous policies (Burstow and Maguire 2013), initiatives and measures that the teachers considered to not only constrain their practice but also enhance their feeling of being judged. Observation, in its many guises, was felt to have now become an all too familiar occurrence in schools. These

teachers were conscious of continuous monitoring and lack of trust. It is this significant point that structures the line of the argument within this situated identity section. Situated within the school, the teachers' identity, sense of self and self-worth were challenged by continual erosion through constant monitoring and inspection.

### **6.1.3.2 Accountability**

When these teachers were monitored, they felt they were being held to account. This in itself is no bad thing; schools should ensure a teacher is not seriously underperforming. However, these teachers felt that each of their individual practices were responsible for pupil outcomes and that wider matters were not taken into account. The teachers felt that teaching and learning was complicated and that it was difficult to hold individual teachers to account for circumstances that were beyond their control. They saw the school as collectively responsible and that working together to address various aspects would be a more constructive way forward. If the SLT were part of the data set, I suspect they would have said this was what the monitoring was doing. However, again, the significant point is that this is not the teachers' perception. Some commented they were expected to 'control things you cannot really control' (Jane 4), such as support from home. John (3) explained how analysis of test results came directly to them as the classroom teacher to explain individual pupil performance, not taking into consideration such home factors. Bob felt there were three contributing entities: the pupil, the parents/home and the school. He considered that they should all share the responsibility for pupil performance. However, he felt the school was seen as the main contributor: 'it seems that more and more and more and more and more is expected [of the teachers/school] and less and less and less is expected of the children' (Bob 3). The suggestion was that not only should the school, rather than individual teachers, be held to account but that pupils and home ought to be held to account equally, arguably a remit beyond the teachers' control; the point being that, in an urban context, the home influence might have a more negative impact on pupils than a non-urban one.

### **6.1.3.3 Assessment/exam pressure**

The teachers explained that, within the school, pupil outcomes were measured by exam results, such as GCSEs and A-level grades, and that these exam results were, in turn, used to hold teachers to account. At the end of Year 9, pupils also historically took KS3 SAT exams. When these KS3 exams ceased to be compulsory (2008), schools could then report

teacher assessments. However, John felt that the school did not trust the science teachers' judgements and described how the school coped with the demise of KS3 SAT exams: 'So our school's now like, instead of SATs, we've got tests, you know, three lots of tests for years seven, eight and nine' (John 3). These nine tests then somehow determined KS3 levels and then provided the data for teacher accountability.

I went in to inspire kids about science ... and I don't think it's about that at the moment, not in the last two schools I've been in. It's about exam grades ... and inspiration and creating a new generation of kids who love, like enjoy science, whether it's to become scientists or just happily pick up a newspaper and read it is being forgotten (Louise 5).

Louise's quote suggests that 'teaching to the test' and getting the results for which teachers are accountable is eclipsing the underlying value of science education, the very reason she became a science teacher. Here we see that the accountability nature of the school not only challenges her sense of trust and autonomy, but also undermines her fundamental motivations for entering the profession. Again, I would argue this was a contributing factor in Louise's decision to leave the school. Each factor adds to the accumulating 'noise' within the situated dimension.

#### **6.1.4 *Feeling undervalued/lack of trust***

As mentioned in the previous section, the teachers felt that the monitoring and accountability culture had eroded their sense of trust in the school. Along with trust, teachers no longer felt respected or valued. They felt that praise, of the 'right type', was rarely received and teachers did not feel recognised for their achievements; they never felt they had 'done enough'. A recurring theme of the teachers' reflections was the sense of a lack of trust. While the change in HoS had improved the situation a little, the feelings surrounding trust appeared to stem from further up the management hierarchy. The teachers did not feel trusted as professionals by senior management within the school, due in no small part to the monitoring culture and results-driven environment.

Louise initially described not feeling valued by government as a teacher: 'I guess one thing that frustrates me is that I don't feel like that the government respects the teachers that are in schools at the moment' (Louise 2). She mentioned a recent news bulletin, which suggested that jobless bankers could become teachers. Louise felt this proposal

implied that anyone could be a teacher; that anyone out of work could be a teacher and this would go some way to address the recruitment issues in the teacher workforce. She felt by implication that the comment did not recognise her expertise, nor that of other outstanding teachers already in post. Louise felt that the government's constant looking for solutions to the teacher recruitment issue outside teaching, such as 'Troops to Teachers',<sup>27</sup> made her feel undervalued and as though she were failing in her role, that her training and experience were 'worthless'. While policy makers would surely dispute this interpretation, the key issue is how these policies engendered feelings of lack of self-worth within Louise. This feeling of being underappreciated negatively affects Louise's professional identity and situated identity, as we see in the quote below. And, as I continually suggest, it is likely to lead to attrition of teachers (as in Louise's case).

For instance, when I asked about such feelings within the school, Louise replied:

I don't know if I am valued. We don't get praised. We don't get anything, we don't get feedback. We just get told when we've done something wrong (Louise 2).

Bob reported a similar of lack praise when he described recent increases in the schools science GCSE results:

Bob: It [attainment]'s gone up probably in the last three years, err, but it never seems to be enough, [laughs], because it's still less than other schools, it's still less than ...

**AM: Mm-hmm.**

Bob: Their target grades, it's still less, so ...

**AM: And what is it that, I mean, what makes you say it's never enough?**

Bob: [Pauses] ... Because you never get to the stage of going, oh, fantastic, we actually did it properly.

Bob feels that despite an increase in the number pupils attaining grades A\*–C in science in the school, the teachers are not praised by the managers for this achievement. Instead,

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<sup>27</sup> 'As an Armed Services leaver, you can bring invaluable skills and experiences to the classroom by training to teach – where you could have the opportunity to apply for a fast-track Troops to Teachers course leading to an honours degree with qualified teacher status (QTS)' (DfE, 2015).



new targets are set and further progress is expected. This practice chimes with the current focus Ofsted have on 'coasting' schools. Continued progress is not a bad thing, but these teachers reported that they want to receive praise for their efforts, to be acknowledged and feel valued. Being valued could be conceived of as a personal desire, from a situated practice. However, intertwined in these quotes, there is slippage between notions of praise and into aspect of trust.

There is something about the trust issue that gets lost ... it's become a very negative thing, nobody ever says you are doing this really well, let's give you the opportunity to keep doing that really well. It's always about, you are doing that really well but then that's not, okay let's do this and then this and then this ... and when you have done that there are these five things that need to be done as well so it becomes a very negative thing. There is also a lack of trust. It builds mistrust between senior management and teachers and there is ... I don't get trusted anymore, if I say that this child needs this, that this has happened or I have done this or ... I'm not trusted, I have to prove it (Brianne 2).

This quotation shows that despite Brianne's experience and (overseas) qualification, she did not feel trusted or valued as a professional teacher. Brianne did not believe teachers' voices were being heard within the school. The quotations above suggested that the teachers just wanted to have their efforts recognised, to feel valued and professionally trusted.

Teachers said that they wanted individual words of acknowledgement and praise rather than material rewards. In fact, big gestures and rewards were not well received; Jane (5) talked of how the school gave awards for teacher attendance, which sounded similar to a pupil prize-giving event. The headteacher would announce those with 100% attendance to the whole staff, then publicly reward them during a staff briefing.

Jane: There'll be this thing where she'll have loads of paper bags with asparagus and wine and all this crap in it and everyone who's got 100% attendance, she'll give that to them and say, well done [claps hands], [laughs] ...

**AM: What, the teachers?**

Jane: Yeah, in a briefing, I swear, in a briefing, right, people coming in, so right, we're going to do attendance ...

**AM: So it's like prize-giving?**

Jane: I swear, she gives you little brown paper bags, you know like you get from the [shop] ...

**AM: Yeah.**

Jane: With like a bottle of wine, a bit of asparagus and all this jam and crap in it and she gives that to staff and they go up and she's like clapping [claps hands], and then people are sitting there thinking, do you know what I went through last time, do you even know what I had to do to get here 95% of the time, how dare you insult me, that's, that's how people feel (Jane 4).

Jane claimed colleagues had e-mailed the head directly expressing their concern at the practice. Jane also claimed some colleagues would take a day off, just so they did not achieve 100% attendance as they felt it to be publicly humiliating to receive the award. Jane claimed the humiliation was due to some feeling they were less worthy of praise than others who had worked harder and achieved a lower attendance for a range of reasons.

I am aware that this is just Jane's account of the attendance reward, so am wary of accepting it at face value. As a single working parent, Jane did take time off due to childcare emergencies, so she would not have been up this 100% attendance award. However, this is not just the 'sour grapes' of one spited individual; rather, it is emblematic of the audit culture of the school. Brianne and Louise mentioned a similar award scheme in the school that was not achieving the rewards it intended. They also talked of an end-of-year staff summer social event. The social was funded by the school, by way of recognising teachers' hard work during the year. On one occasion, this event was cancelled due to lack of funds. Not only was this not a good way of expressing gratitude, but worse still, the cancellation was not conveyed directly to staff by the SLT. A message was sent out by the 'teachers' association' saying the event was not taking place, suggesting they could organise something themselves. Cancelling the event did not make some teachers feel valued, and the issue was compounded by the short notice and lack of

care implied. As a result, Brianne and Louise felt that it conveyed a lack of respect towards them and their colleagues.

Three of the five teachers (Jane, Louise and Brianne) described management attempts to recognise teachers' efforts that did not, in their view, achieve this goal of recognition. To me, it felt that what was missing was low-level, personal praise within the school; the teachers wanted to feel appreciated. This sense of neglect could be read as resulting in a spiral of negative decline; mechanisms introduced in school to offer praise go unrecognised by these teachers, or recognised but viewed, at best, with scepticism. I suggest that the 'parallel tracks' that teachers and management occupy can reinforce the toxic environment mentioned within the science department. It is this noxious atmosphere that challenged the stability of the teachers' identity and contributed to each of the three teachers to question their commitment to the school.

### **6.1.5 Space**

Pointing the lens in a very different direction, I now turn to the physical space within the school, as a factor to consider within the teachers' situated identity dimension. The physical working environment is often overlooked in research. Buckley et al. (2005) began to address this by looking at four factors within school; thermal comfort, air quality, lighting and noise levels. Their research suggests that 'the benefits of facility improvement for retention can be equal to or even greater than those from pay increases' (p.16). These facility factors are particularly relevant when considering building works being undertaken in City School during the data collection period. The building works were funded by the 'Building Schools for the Future' programme (BSF), a government investment scheme for secondary schools, in operation between 2005 and 2010. While the long-term improvements should improve the physical environment, the works themselves did give rise to some challenging circumstances for their participating teachers.

#### **6.1.5.1 Building works**

When I first visited the school, much of the building was dilapidated and in need of attention, the science department included. During the time I spent in the school, BSF funding was secured and building works began. It was a substantial project and therefore a long period of building works ensued. The upgrade covered many areas in the school,

including the staffroom and parts of the science department. While the staffroom was being built, teachers were relocated to a small Portakabin placed in the school playground. The space was not big enough to hold all the staff simultaneously. Likewise, portaloos were installed at the other side of the playground. These temporary buildings required staff to walk outside regularly to visit various essential sites within the school. Indeed, it was this uneven surface that Jane slipped on (see section 6.1.3 above). In addition to the playground excursions, John repeatedly complained of heating and dust issues due to the building works. He believed these conditions had aggravated his asthma and led to the ill health, which contributed to his departure from the school. John's issues with heating and dust clearly echo two of Buckley et al.'s (2005) four factors: thermal comfort and air quality.

Teachers were obviously impacted by the building works; however, they did not suggest a sense of ownership of the project. The teachers felt the work was happening to them and did not feel they had been involved in the process. The teachers would have liked to been consulted at the planning and implementation stages about their needs and expectations, e.g. how the timing of the works would be managed and what they would like in the new classrooms. Sadly, in interview, the teachers expressed low expectations of the project and were not enthusiastic about the promised improvements. During the renovation, lessons were relocated to temporary classrooms. However, this temporary accommodation was not adequately fitted with appropriate supply facilities. Teaching practical science requires access to water, gas and electricity points; but, as Bob puts it in his second interview, 'next year is going to be even more difficult, it's going to be bonkers'. Other difficulties encountered included 'loss of Internet' and 'kids have no space, they have no space to release energy' (Louise 2).

No-one denied there was a spacing and environment issue in the school prior to the works taking place; however, these issues were not fully resolved when the building works were completed. As with many schools, the main public areas were rejuvenated: the main reception, entrance area and dining space all looked very impressive (Foskett 1999); however, further into the school the outlook was less impressive.

A new science staff workspace had been created; it was, however, smaller than the previous space, and members of the team did not have their own desk, so hot-desking became a necessity. As there were more teaching staff than labs, those who did not have their own lab were more aggrieved over the hot-desking issue. As a result of the BSF

project, some, but not all, science laboratories were renovated, which resulted in different classrooms having a very different feel:

Some of the classrooms ... are lovely, you know, they're really nice, you know, nicely designed clean and fresh (John 3).

However, the classroom we sat in for John's third interview had just had a coat of paint. Doors were still hanging off cupboards and there was still writing on desks. John suspected there were financial constraints to the project, and he did not feel as though science had been prioritised. I do not know why John's room did not show evidence of the BSF project, but the significant point for me is that he felt that science was not a high priority within the school. Hewson et al. (2001) found that school science could be improved if it were made a management priority (see section 2.4). If John's perception was accurate then this did not sound like the case. This also chimes with Brianne's comments (see section 6.1.1.4) regarding the school's media and arts status.

As a resolution of the lack of teaching lab space, Bob and another colleague had volunteered to be without a 'base lab'. Bob volunteered as he felt others would complain too much about being peripatetic. He taught in ten rooms over a two-week period, and, as mentioned above, he was now heavily reliant on the science resource room:

... which is the size of a postage stamp ... We have ended up with, we've ended up with a tiny office, which was, err ... Our previous office in, when we were here before, before the building works was, well, it was huge, it was a great space, which you need for, we could fit 13 members of staff in (Bob 3).

It is my understanding that management wanted to make the main staffroom the hub of activity, therefore reducing the demand on these separate subject bases. I observed the former 'huge' space Bob refers to; it was not well used to foster productivity nor communication. Teachers had a desk each and consequently operated independently, and much of this could be associated with the negative climate we have repeatedly come across in this situated section.

As part of McIntyre's (2010a) PhD research into veteran teachers, she explored the concept of 'place and space' and how teachers used the spaces available to them. McIntyre's teachers talked of the changing face of the staffroom. Both City's science

space and whole-school staffrooms certainly reflected that changed face. Four of the five teachers did not make use of the whole-school staffroom. They described it as ‘cliquey’ and unwelcoming. The teachers reported that other subject teachers fitted in much better there than the scientists. This clique notion and sense of otherness echoes MacLure’s (1993) discussions of contested identities (see section 3.7), with MacLure suggesting that this disassociation with others in the school indicates a sense of detachment, possibly leading to attrition. It is also possible that the main staffroom, filled with other subject teachers, was ironically markedly alienating, as it did not reproduce the negativity vibe that characterised the science department. It is a depressing notion that four of the five science teachers who did not use the main staffroom might have taken comfort in the shared negative ethos they had constructed around themselves.

This shared negativity did not, however, cohere the individuals. I did not glean any sense of collegiality within the science team; they did not appear to want to spend time together nor enjoy each other’s company.

#### **6.1.6 *Being a science teaching team***

On my many visits to the school to meet and interview individuals, I did exactly that, ‘meet individuals’. Never did I find the teachers together talking or sharing as a team or as colleagues. The research data shows that they were talking about similar aspects of their working lives, and therefore existing within the same department, but I rarely felt I was talking to a member of a team. Over time I was able to discover how the human pieces fitted together, but it was by no means obvious and so I asked the teachers how they viewed the department. Brianne damningly said, ‘It is the most dysfunctional department I have ever worked in’ (2). And Jane explained:

Jane: Disjointed.

**AM: Why?**

Jane: Ineffective, all over the place, honestly I’m not going to sugar coat it for you. It’s hideous. Basically the department is made up of a real hotch-potch of people who probably half of them at the least don’t want to be here for their own personal reasons. Four of them are leaving at the end of the academic year. And we have got a new head of department who seems to struggle to keep on top of everything because there is a lot of pressure

on her. So it is just, you know I have my individual people that I talk to you and whatever but they don't really care about each other I would say (Jane 2).

This lack of care was reflected in the story of Jane's accident and maternity, discussed in section 6.1.3 above. It could also be argued that this lack of 'care' was reinforced by these teachers performing themselves to each other the 'lack of value' they criticise school management for enacting. While Brianne and Jane often used quite passionate language, all the teachers I spoke with expressed similar sentiments.

I think everyone is incredibly stressed, we are all pretty much in our own little, doing our things, there is no idea of sharing, there is no collaboration, it's not encouraged, I mean it's not discouraged but it's not encouraged either, everyone is nice, if you're stuck, they help you (Louise 2).

Louise believed that colleagues would help you if you asked for help, but she emphasised that you must do the asking. Good collaboration comes from strong links fostered between people, and in my view and the teachers' views, this department did not contain these links. The natural place to forge relationships might be department meetings, yet, as discussed above, the meetings did not appear to serve this purpose. Bob believes the issue stems from the fact that the department talked about ideas but did not follow through; he felt they did not hold one another to account, and includes himself in this statement, claiming that he, too, did not follow through with consistent practices they had agreed on.

The most positive response came from John, who initially described his fellow teachers as 'down to earth ... it's a good atmosphere amongst the teachers, we can have a laugh and a joke' (John 2) but this atmosphere evolved over time; in the fourth interview he suggested things had been 'eroded' by constant change; he used the words 'stressed', 'strained' and 'frazzled'. In the final interview he said, 'people still chat and try to smile ... but there's a lot more arguments breaking out' (John 5). These teacher quotations support my observations, that there was very little, if any, sense of a team dynamic within the department.

One of the contributing factors to establishing cohesion within a group is stability; as can be seen from the turnover section below, this is something the department did not have. 'We've constantly been in flux since day one really' (Bob 3). Bob is the longest-serving

member of the team and joined City School in 2003. He finds it quite a shocking statistic that his relatively short tenure was the department's longest. With such turnover within the workforce, relationships become more transient.

I wanted to explore what enabling factors were in place to facilitate the forging of such relationships. Reviewing the data, there were occasions when the teachers talked of support from others in the department but it was always couched in the terms of 'if you ask', never that it was proactively offered. Such a practice conveys a sense of resentment; some might not be aware they needed to ask, while others might have been reluctant to ask for fear of voicing failure. Additionally, if one was new to the department, one might not know whom to ask. Given that the staff turnover also occurred at HoD level, consistency and implementation of systems were significantly affected.

Nobody is at the top holding that together and orchestrating it in that way  
... I think we really need a head of department who is going to come fight  
for us and stand up for us as a team and say 'no, sorry, no more, let us get  
this right first and then we'll think about the other stuff' (Brienne 2).

It might also be possible that teachers were so absorbed in developing relationships with pupils (see section 6.1.1.1), that they neglected to recognise the need to develop adult support relationships in the workplace.

One way teachers might establish better relationships with each other is to interact on a more social basis, though again I acknowledge that this is more difficult with a high staff turnover. The teachers recognised that they were not good at socialising. Bob suggested that this 'lack' may be down to scientists' personas and their social skills. Indeed, while the volume of interview data suggests that the participants can voice their views and concerns extensively, their data is also pervaded by a sense of negativity, blame and resentment; such sentiments are not conducive to productive collegial relations.

Revisiting the physical space issue, the science resource room was not large enough to accommodate all members of the team and was certainly not set up to promote conversation. Tables were laid out to maximise space and promote working at desks. The layout did not promote conversation (Burn et al. 2007). Due to the room's lack of appeal, most science staff did not leave their labs at lunchtime to interact with other members of the team. Nor was the main staffroom used by most of the science teachers, as it was seen to be cliquey. There were after-school sports clubs for staff to attend if they wished,



though the science teachers did not participate in these either. Very occasionally, staff reported going out for an annual meal, or the like; however, knowing one another away from school was not considered to be a high priority. In sum, it appears that the teachers were not putting any personal effort into constructing conducive interpersonal relations. This somewhat insular work ethic does not foster a sense of fitting in.

An additional way that collegiality might be promoted is through team teaching, or some form of team planning/role sharing, within the department. Both John and Jane suggested this idea during their interview as something that they would be interested in pursuing, but due to the lack of community in the department they had not actually mentioned this within the department. This approach would not only increase the amount of cohesion in the group but might reduce some of the burden/complexity of the urban science teacher role. Given the recruitment and retention issue in urban science teaching (Ingersoll 2003), I am not suggesting all classes be taught by two teachers, but departments might think about more creative ways of enabling this practice.

#### **6.1.7 Time and space**

The 2003 Workload Agreement was mentioned above; however, like Day et al. (2006b), I wanted to look at the details of the teachers' working lives. I shadowed four of the five teachers for a day each at the start of the data collection period and observed how busy their days were. Each teacher had a different work pattern and their working day lengths varied, but what was common was the pace of their day. Lessons were not the most interesting time for me; rather, I found that the time between lessons was fascinating. When not teaching in the classroom, teachers might be 'on break/lunch duty', photocopying, planning, marking or undertaking administrative tasks. School breaks and lunchtimes were very much for the pupils and not the staff. Louise barely ate or drank anything; John and Brianne ate lunch in their labs as they worked; Jane did leave the school, but only because she was a smoker and therefore not allowed to smoke on school premises – this provided her with brief moments of 'downtime'. Overall, I observed very little 'downtime' during the teachers' day. This lack of time was something the teachers talked about often and can easily lead to health issues (see Chapter 7) and possible burnout (Griva and Joeke 2003). Productivity is not only affected by lack of 'downtime', but also by rushed or inadequate sustenance. Within the school, the teachers' welfare appears to sit below pupil welfare; equity issues aside, this situation is indicative of an inflated situated identity construct.

### 6.1.8 Turnover: Chicken and egg

The overriding line of argument throughout this PhD is about teachers' evolving identity; the identity instability that results from the interplay of factors surrounding urban science teachers and the ensuing retention issues. I have discussed numerous factors which can play both positive and negative roles in urban science teachers' experiences and, therefore, can be argued to contribute to teachers' decisions to remain in post or not. However, staff turnover is also itself a contributor to these teachers' experiences. High turnover was evident within my own small group of teachers – only two of the original five teachers remained at the school for the entire data collection period. Teachers continually mentioned in interviews who was leaving and why and the impact these changes were having. Teachers at all levels within the department were passing through Ingersoll's 'revolving doors' (Ingersoll 2003; Ingersoll and Smith 2003).

In her very first interview, Jane commented on staff turnover:

... massive turnover of staff, when I came here in September 2005, I was one of seven new teachers, out of about ten in the whole department, this department was mad. There was only about three people who been consistently here for and even those people have only been here for two to three years maximum so retaining staff is a big issue (Jane 1).

Similarly, Bob, in his second interview, acknowledged the 'recurring theme' of staff turnover within the department. Each year, if not each term, teachers left the team, and new ones joined. When probed about the actual turnover figures, Bob initially claimed at least 40 had passed through the department since he started in 2003, a period of eight years. After considering the matter more carefully, he revaluated this figure to between 25 and 35 people (Bob 4), which is still a large number. This huge turnover of staff had three main impacts: for those who stay, there is a constant need to induct new staff; pupils do not maintain the same teacher and, as discussed above, the transient notion of the staff affects the team dynamic within the department. So, the chicken and egg scenario becomes apparent; high turnover leads to additional staff pressures, leading to staff discontent, and may, therefore, drive up staff turnover even further.

### 6.1.9 Summary

This situated identity section is lengthier than the previous professional identity section. The length is a product of including more contributory factors and, in turn, these factors are more detailed. Additionally, I found that the factors within the situated dimension are more influential in teachers' identity construction. There are some overarching points arising from this section. Firstly, the teachers' views regarding urban pupils are, broadly speaking, very positive, and these relationships with pupils contribute to retention. Secondly, the teachers' views about other staff in this urban school are overwhelmingly negative. By analysing what is said, this negativity about their colleagues can be seen as creating an increasingly toxic environment. The atmosphere could be construed as inducing further unhappiness among the teachers to the detriment of the whole department. Thirdly, despite the focus of this study being about urban science teachers, more often than not the teacher reflections are about being an urban teacher more than being a science teacher. If your passion to teach is driven by your passion for science, it is possible teaching in an urban setting necessitates a compromise.

My argument is that it is these three points arising that cause inflation of the situated identity dimension within the participant teachers. As has been stated frequently before in this thesis, such imbalance between dimensions is not sustainable. The imbalance needs to be addressed and rectified. Given the seeming detachedness of the professional dimension and the apparent breakdown of situated influencers, I would argue that the personal dimension of one's identity becomes paramount in redressing the balance across the three dimensions, and I shall suggest that it was the nature of the teachers' personal identity 'resources' that could tip the balance regarding whether the teachers remained in post or not.

## **7. Findings III**

### **7.1 Personal Identity**

Having looked at the many professional and situated facets to teachers' lives, I now turn to the personal dimension. First, I look at teachers' personal reasons, which may contribute to their decisions to leave; these include burnout, stresses and poor work-life balance. At some point during the interviews, all the teachers complained and identified factors that made them consider leaving. Next, I will consider why, then, they do not all leave the classroom. To understand the complexity of retention, I consider personal characteristics, which interplay with one another to generate resilience. These characteristic aspects include teachers' motivations for entering the profession and pragmatic reasons to stay, which, in turn, lead to notions of 'choice' versus 'no choice'.

#### ***7.1.1 Burnout and stress***

The word 'stress' was frequently used in interviews – 71 times over the 22 interviews – and the symptoms of stress were also frequently talked about in addition to particular utterances of the term. There is, however, a danger that 'stress' can be a throwaway 'buzz word' used by individuals. The British Association for Counselling and Psychotherapy have developed a 'stress test' for users to assess their stress levels (BBC News 2013b). But, what I consider to be important is that the teachers regularly talked about stress levels within the interview and, indeed, the notion of stress was interwoven with what it meant to be an urban science teacher. In 2013, the National Union of Teachers (NUT) published union guidance on teacher stress and cited seven recent teacher stress surveys, starting with the Health and Safety Executive (HSE) in 2000 and finishing with Teachers' Assurance in 2013. Such data highlights how teaching is a high-stress-level profession, and can therefore result in individuals leaving posts, possibly to seek less stress in another school or by leaving the profession.

Some of the more explicit displays of stress as shared by the teachers were:

I mean by the end of last academic year, I think I was quite depressed. I actually went to the doctor ... 'cause I was feeling really low (Jane 3).

Then again:

You know, I mean, I, I've just, it's really mad, but I've just started cognitive behaviour therapy [laughs], because I, I, I've been really pushed to the limit in the last few years and last year, I actually felt really depressed, it was bad actually, um, and I've waited for a year to get this kind of therapy, 'cause they've tried to give me anti-depressants and all this crap and I just won't take them and it was only a few weeks ago, where I went to the doctor, 'cause I couldn't breathe and he said, you're suffering with anxiety. I said, what are you talking about, I must have a chest infection? (Jane 3).

Both these quotations show very real stress levels in Jane. John and Louise also reported being stressed to the point that it affected their ability do their job.

I'm too tired. I've actually e-mailed our line manager, senior manager because I am sick now, properly sick with health issues because of stress (Louise 2).

These continued at Louise's next school:

Yeah, but I ended up, um, taking off a lot of sick leave, 'cause I developed a random infection with high temperature, 'cause it was just, I think, as the result of stress ... I couldn't fight off an infection, so I was hospitalised for like a week with a temp[erature], with a, this infection ... Um, so it was, and I just was like, I think that's just the amount of pressure ... And the amount of expectation (Louise 3).

In addition to the demands being made of Louise in school, she was also planning a wedding and moving house, both stress-inducing activities. Furthermore, at the start of the year, Louise's sister committed suicide. The school, of course, cannot be held responsible for such events; however, returning to the situated issue of support, the school did not recognise her stress levels and support her:

... that happened on a Tuesday and I took the Wednesday off, phoned up to say I can't come in Thursday, I got told it was my busiest day and I was expected in, um, so yeah, I didn't, I went in, in the end, but then I was like ... too upset to teach, so I went home again (Louise 3).

John's complex experience has also been previously discussed:

... and last year I had loads of days off ... and I'm still having days off, 'cause it's like, they've been, I've been going to hospital, getting tablets and antibiotics and things (John 3).

Here John is talking of his physical health and, respiratory-related issues. However, later in the same interview the link with stress emerged:

I think it's stressful and ... I think somewhere along the line they are... you know, I didn't realise at the time, 'cause I thought about, you know, to me, I, it was just very weird. I had, there were symptoms for the flu in, the fluiness and then there's symptoms of stress, you know ... and I realised I'm quite a calm person ... and I'm realising that somewhere along the line, it is stress (John 3).

The three graphic accounts of Jane, Louise and John all show how stress can affect one's health and therefore impact on the ability to function professionally (Troman and Woods 2000; Griva and Joeke 2003). These three teachers had not readily, nor fully, shared stress-related issues within the school. There did not appear to be a formal mechanism to share – mentoring or counselling – nor an informal one, given the science department dynamics discussed in the situated section of this findings chapter.

Brianne and Bob did not discuss stress and illness in the same way. However, they spoke of being 'tired' – 'I'm bloody exhausted, of course I am' (Bob 4) or under pressure – senior management 'pass that pressure on to us teachers' (Brianne 2). The scenario presented by the teachers is that they were all under pressure, but this appeared to be a personal predicament which they suffered in isolation, rather than being an experience which they shared/confided in with others.

When I met with the teachers, they displayed certain self-images. On first meeting, most teachers were less exposed than on later meetings. We did not know each other and the FMSS (Daley et al. 2005) did not afford conditions to build trust. However, over time, I felt that the teachers revealed more of themselves to me. With this trust came notions of showing signs of moving on and running out of steam. Their conversations began to suggest that they were less content in their urban science teaching role at City School. For different teachers, this transition occurred at different stages; when I met Louise and Brianne for their second interviews, they had already resigned. Given this circumstance, they were obviously presenting as detached from the school. John presented as being

ready to move on in the third and fourth interviews, while Bob did so more in the fourth and fifth interviews. However, since Interview 5 was the final one, I do not know whether these signs became reality, and whether Bob is still in post at City School. In all Jane's contributions, I never really felt she was on the verge of leaving.

When asked if Brianne planned to remain in teaching, Brianne replied, 'No. I'm done. I have given a lot of my time and life to this' (2). Similarly, Louise said: 'I mean, for me, because my partner's a solicitor, so he's going up and up and up ... I don't need to work, I can be a housewife if I want' (2). Louise did go on to say she did not really want to do that, but the idea had crossed her mind. Again we see that Louise has the 'luxury' of the choice to leave, while others do not. Jane and Bob might share sentiments of frustration with Brianne and Louise but are not in the same position to have the 'luxury' of choice to leave open to them. This is a theme I return to later in this chapter.

As we discussed the impending 'school restructuring', John slowly shared that he was thinking 'this is probably a good time to move on', adding, 'I need a bit of a break I think ... it's too, 'cause teaching is too full on' (3). In Interview 4, Bob talked more actively of applying for other jobs, explaining that he tends not to get attached to places. We discussed becoming a veteran (McIntyre 2010b) within the school: 'I, I, I physically couldn't imagine doing this ... I'd be destroyed [laughs]' (4). Such comments continued throughout the fourth interview, even to the point where he mentioned his 'fantasy leaving speech'. So, again, we see all teachers displaying reasons why they might decide to leave, which encompass 'stress'.

### **7.1.2 Work-life balance**

Literature and my data suggest an overarching reason that teachers may leave a position is dissonance in work-life balance. Work-life balance is by no means a term specific to teachers. The concept requires individuals to consider the amount of time they spend working in relation to the amount of time they spend living the rest of the lives. Those who have a poor work-life balance would be considered to work long hours to the detriment of their non-work lives, whereas individuals at the opposite end of the spectrum need to work enough hours so that they are able to earn enough to live, hence the sense of 'balance'. Greenhaus et al. (2003) found a lower quality of life among those who had work disproportionately represented in their work-life balance, i.e. work featured more than home in time allocations. Sturges and Guest (2004) claimed that achieving a good

work-life balance is beneficial for one's personal life and for work productivity. In that vein, 'work-life balance' can also be seen as a lens to understand attrition; hence, it is an important consideration in this study. Indeed, Bubb and Earley (2004) weave recruitment and retention throughout their book on managing teacher workload, linking attrition to work-life (im)balance and well-being. In this section, I shall consider how the teachers perceived their own work-life balances.

When I asked the teachers about their work-life balance, they nearly always reported that the balance needed to be redressed. At the point when the teachers resigned their position in the school, other people in the teachers' lives had already been suffering because of the imbalance. For Brianne, it was the relationship with her partner that made her redress the balance. For John, it was his family; for Louise, her husband; for Bob, the arrival of his first baby; and for Jane, her children. Those who exist outside the domain of school teaching may believe the profession to be very family-friendly, as you work the same hours and that days your children are in school, reducing the need for wrap-around and holiday childcare. However, this would only be the case if teachers worked in school the same number of hours as pupils were in school.

I have a wealth of data from all the teachers about their work-life balances and they all raised the issue as being very important to them. For instance, in her second interview, Brianne described how she was working late at school and then taking work home; this was taking its toll:

Currently it's getting a bit better actually because I made a conscious decision to stop the 12-hour days and stop, you know, I think my relationship with my partner at home, we went through a particularly bad stage where eventually we just came to think that actually, do you know, work has to stay at work because it [was] now beginning to affect us (Brianne 2).

Louise spent many hours in school and also took work home. In Interview 2, she reported that her weekends were spent either recovering from the previous week or becoming anxious about the week ahead. As a result, she felt resentful and 'grumpy' – a character trait with which she did not identify well. However, her feelings changed after she got married; as she put it, she now had:



more perspective on my work-life balance ... 'cause like I will work all hours God sends, but moving house and getting married, I was like, no, actually, I am entitled to have ... my weekends, I, I am entitled to say, actually, no ... that's too much work (Louise 3).

In Interview 2, John talked of having to manage his time so as not to impact on his family: 'There is a big spillover' (John 2) into home life, and he explained that he had to make sacrifices. This point resonates with McIntyre's (2010a) findings of 'permeable' boundaries of teachers' working spaces. As the interviews advanced, the impact of work on home became greater: 'I think it is intrusive into my family life' (John 4). He reported that he was working so hard that he was either working or asleep and that he got no quality family time.

Bob, in his second interview, claimed that he managed his time 'brilliantly'. I think it would be fair to describe him as 'carefree' at the time. However, as he progressed towards parenthood, his perspective changed. He considered the job to be 'consuming', adding, 'I'm bloody exhausted' (Bob 4); but at the same time, he felt having a child made it easier to manage his time: 'in some ways, it makes it a lot easier, because it's an easier decision to make ... it's not even a decision' (Bob 5); home would always come first.

And finally, Jane: family values are clearly important to her, both as a daughter and as a parent. Her family featured often in her conversations and over time it became possible to track the pendulum of her work/life balance:

I do quite a lot of the stuff myself, I had another child, I chucked my, my partner out after, when she was three months old ... [laughs] ... He was a dickhead, sorry to swear, but he was, he was ... so I chucked him out, so yeah, it was, it was difficult and I guess really kind of like another facet would have been emotional, my emotional self ... Was all over the place, you know, kind of like that, that kind of affected all the other things really and then there's come back<sup>28</sup> and all the Key Stage 3's changing, so I'm focusing on getting the scheme of work together (Jane 3).

In her third interview, Jane describes how when acting as HoS, she struggled to manage both aspects of her life: 'I couldn't stand it ... I like to have a life' (Jane 3). By the final

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<sup>28</sup> Returning from maternity leave.

interview she looked better and described the different activities she was now able to enjoy with her children – painting, baking, watching movies – once she had redressed the balance in her life.

The reflections of the five teachers show how easy it can be for life to get out of balance and the negative impact this can have in the teachers' personal identity dimension.

Given this constant repetition of the challenges in the urban science teacher role, 'staying' should maybe not necessarily be considered the norm. Such working conditions do not encourage 'staying'. Jane commented that if you did not enjoy the job you simply wouldn't stay, as it was too hard to do if you did not like it. However, my evidence suggests that it is not that simple. What follows are the various indicators that may shed some light on the teachers' rationale to remain or leave, why some talk the talk of leaving and then walk the walk, while others talk but do not walk. The first aspect for consideration is the teachers' initial motivation for entering the profession.

### ***7.1.3 Motivations<sup>29</sup>/reasons for entering the profession/expectations***

I have repeatedly highlighted that while the teachers do enjoy some aspects of being an urban science teacher, especially the pupils, there is overriding evidence of challenge within the role. Jane commented that if you did not enjoy it you simply wouldn't stay, as it was too hard to do if you did not like it. And so, I would argue, one of the main indicators of a teacher's likelihood to remain is their initial motivation for entering the profession.

By looking at the teachers' stories (Chapter 4), we can observe that each had their own reasons for entering the profession. Similarly, they each followed different routes into teaching and at different stages in their lives. Some came to teaching early on: Brianne followed an education degree, and Louise undertook a PGCE directly after her PhD. Expressing a notion that teaching was a very early choice for them, one might even suggest it could be conceived as a vocation. The remaining three, Jane, Bob and John, came to teaching later after following other career/working options first. John is subtly different as he suggests he always wanted to teach but was often dissuaded by talking to others. Jane and Bob, though, present very different pathways; they were both doing other

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<sup>29</sup> I see intrinsic motivation relating to the self and therefore located in this 'personal' section. However, extrinsic motivation is about the pupils in the school and therefore more closely allied with the 'situated' themes.

roles and felt unfulfilled, and subsequently decided to give teaching ‘a go/a bash’; to some extent they appear to have ‘fallen’ into the profession.

These various journeys also imply different motivations and therefore expectations of the role. The data suggests that Louise and Brianne were very sure that they wanted to teach science in an urban school, as they felt they had experienced such a setting in their own schooling and therefore wished to carry the baton on for the next generation of children. In some way, I got the sense that they wanted to make a difference to urban children’s lives, and thus their expectations were informed by this standpoint. Their expectations were very high – they believed that they could positively influence the children’s lives they touched – while Bob and Jane discussed the notion of teaching as being something they ‘might be good at’. Their expectations were by no means low; however, they did appear to be more realistic. For the teachers in my sample, it would appear that intrinsic versus extrinsic motivations can play a part in determining whether teachers remain in post. Teachers with extrinsic motivations seem to leave the profession before those with intrinsic motivations. This is, of course, an oversimplification, but it appears that teachers who wish to change the lives of their urban pupils might be more readily defeated if their goal is not met than those who became teachers due to less altruistic motivations.

While this might present as a rather depressing claim, I rather see it as a potential lever to improve retention at the point of initial recruitment. There appears to be emerging a mismatch between one’s perceptions of urban science teaching and the reality in school. I feel that those entering the profession would benefit from context-relevant experience and having their motivations explored more fully prior to starting in post.

For instance, ITE may better support individuals to realistically evaluate their expectation of what they might achieve as an urban science teacher. This does not mean lowering their expectations, but could involve reflection on the very real demands of the specific urban setting; it is more about looking at individuals’ initial expectations and motivations when they first enter the profession to ensure these are not unrealistically high or demanding. Jane describes her own reflective experience:

And I think that, yeah, I think some people are disappointed. I think some people are disappointed by education. I think some people come into school with this really romantic idea... I wanted to give something back and I came in with this, you know, this romantic idea of making a

difference and I think I do, you know ... to a certain extent ... but my health is suffering because of this ... and I have to put myself first (Jane 4).

Jane attended a London school and expressed a desire to return to those roots. However, she describes a level of romanticism that was not realised; she needed to re-evaluate her anticipations, and felt her personal health was suffering in her quest to achieve these goals.

It would seem odd to suggest that those who express sentiments such as wishing to ‘make a difference’ when applying for ITE should not be offered a place, or may be steered away from urban settings. However, as is already the case, applicants should be advised to gain adequate, setting-specific experience before commencing their teacher education. Also, their placement school should continue to enable them to fully understand the urban locale and prepare for the demands of the role.

It seems that a strong indicator of an individual’s propensity to remain in post is their initial expectations. While these expectations can be re-evaluated, as is the case for Jane, individuals also need other personal attributes in order to navigate this transition. I now turn to the personal characteristics and attributes that can lead to a fostering of resilience in post.

#### ***7.1.4 Personal characteristics and generating resilience***

Arguably, one of the key characteristics to coping with challenge, as has been described, is resilience. Gu and Day (2013) argue that resilience is ‘the capacity to maintain equilibrium and a sense of commitment and agency in the everyday worlds in which teachers teach’ (p.26). Like identity, they describe resilience as neither innate nor fixed, suggesting that resilience can be acquired but also, I would contend, eroded. This concept of personal resilience is complemented by Yonezawa et al. (2011), who focus on professional resilience as a ‘process built on the interplay between individuals and their supportive contexts’ (p.1). In this subsection we explore the teachers’ expressions of resilience.

While all five teachers shared many of the challenges that they encountered, only Jane and Bob remained in post at the end of the data collection period. It could therefore be argued that they are more resilient. However, it could also be conceived that deciding to

leave a position, which makes an individual unhappy, is in itself a resilient act. I, however, would interpret this as an act of self-protection, rather than resilience *per se*, as they preserved the self, and not the self within the urban science teacher role.

I interpret Bob's laid-back attitude as contributing to his enacted resilience, e.g. he tends not to get overwhelmed by the demands of the job and adopts a strategically pragmatic approach. He marks pupils' books just before book checks, rather than attempting to mark all books all of the time. Bob's chilled responses when things go against him is typified by statements such as 'let's move on to tomorrow' and 'you've got to extract the good bits and try and wipe your mind of the bad bits' (Bob 3).

Another way to interpret this display of resilience might be the notion of adopting a 'good enough model', where Bob accepts that what he is doing is 'good enough', rather than aiming for perfection, which may be unattainable, or attainable only at certain costs. John, too, adopts this approach, stating:

The only way you minimise it [pressure] is by ignoring it. That's what you have to do, you have to say, I am not doing it. I'll do that another time. For example, obviously minimise in terms of time, I say I am going to do an hour. Or I'm going to take a small project that I know I'm going to do in an hour or so, in an hour and [a] half, I can sit down and do it quite comfortably, but anything longer than that I won't do (John 2).

And later in the same interview, he said:

I still think what it is, I think you're still nagged by this idea that you are not completing things. It's like teaching is an everlasting job. You are not completing everything and it's frustrating. You can't complete it in the working day, that you can't sort of ... it's a lot of admin work ... things like marking, it's like, it's all very frustrating that you can't finish so you either have to ignore the frustrating or if you are, like some people are, a perfectionist, you get uptight by it (John 2).

However, this strategy of aiming to be just 'good enough' was not an option for all the teachers. For instance, Louise describes herself as a perfectionist:

Like, and it's just that's when I wonder is it me, like, 'cause I know I'm a perfectionist, I know I'm a control freak (Louise 3).

It seems the perfectionist element of her character meant she was never satisfied and was consequently never happy to be just good enough. During the data collection period, Louise resigned from three teaching posts, and we might interpret this high turnover as influenced by her refusal to compromise what she felt she should achieve. This phenomenon might also relate to the theme of teachers' initial motivations. I interpret Louise as being doubly impacted by her perfectionism and her motivation to 'make a difference'.

In contrast, those two teachers who remained in post showed the strongest persuasion towards being 'good enough':

Yeah, I mean, I think what I have accepted is that you cannot be on top of everything all the time, otherwise you'd be dead (Jane 5).

Bob expressed similar sentiments:

Yeah, exactly, so am I doing my job properly, err, I always say this, but really, no, I mean, the amount of work I'm putting into Key Stage 4 in charge stuff is minimal ... Um, I'm paid to do the job but I, I mean, the lesson teaching's going fine, the progress of the students is fine, you know, but my handle on what's going on in the department in Key Stage 4 ... (Bob 5).

Both Jane and Bob employed the 'good enough' model; they navigated the terrain of their positions by doing enough to survive without attempting to do more than they considered possible.

I suggest that Jane is also resilient by virtue of being prepared to challenge the various demands made of her. She was confident in challenging what she perceived to be unreasonable demands of her: 'I've had enough, what's wrong? Let me deal with it' (Jane 4). Jane typically acknowledges a concern then responds, and is prepared to voice her discontent with a situation and attempt to remedy it. For instance, in Interview 3, Jane explains how she approached her HoD to share her feelings of being overwhelmed. This could be seen a risky strategy, in as much as middle management might then have seen her as not coping. Hsu (2005) discusses help-seeking behaviours, suggesting that in some settings asking for help is considered an indication of inadequacy. Yet, Jane is prepared

to risk such an interpretation in order to protect her well-being and achieve increased job satisfaction.

Another personal characteristic which is enactment of resilience is flexibility. In order to navigate the various demands of the role, the teachers felt they needed to be flexible; day to day, one might expect to respond to an out-of-class issue which could disrupt the smooth running of planned lessons or short deadlines from school management. ‘You have to be flexible to an extent, there’s a lot of guff to deal with’ (Jane 4). Bob advises those new to the profession to ‘be prepared to be flexible’ (5), and relates flexibility to resilience: ‘you’ve got to be really resilient and you can either be really resilient by being rigid or you can be resilient by being very flexible’ (John 5). In this quotation, John claims there are two ways of being resilient: to survive as an urban science teacher you can either be rigid or very flexible. I think he means being very focused and able to ignore many aspects of the job, or being prepared to constantly respond to the multiple demands of the role. I am not entirely sure I agree with John’s claim, but I can see that a level of flexibility is important. I would also argue that both Brianne and Louise enacted lower levels of flexibility. They were inflexible in the way they stood their ground in response to SLT behaviours mentioned in the situated identity chapter (Chapter 6). We have seen that being an urban science teacher is a challenging role and many of the aspects involve a high level of unpredictability with respect to pupil need and staff turnover. Flexibility can enable one to respond positively to these uncertainties.

The key point to draw out is the importance of highlighting these personal characteristics, which can generate resilience for urban science teachers. These facets, described above, are more prevalent in some individuals than others. It is my view that, by acknowledging these characteristics, we may make them more visible to teachers, and in doing so we can therefore support teachers to develop such characteristics. That is to say, by making explicit certain coping strategies, individuals may become more able to ask for help and adopt a more flexible approach in their practice.

Another way teachers displayed resilience was not only to admit when they are struggling, but subsequently being able to ask for help. Pressures and stresses were not routinely shared by the teachers within the situated school context, as mechanisms for such sharing (formally/informally) were not in place.

Explicit quotations within the data of teachers admitting to having difficulties are rare, one exception being: ‘I’m falling, I feel like I’m falling behind a bit’ (John 3). Admitting this to oneself is hard, and to share this with an outsider is even harder. I am not, therefore, surprised by the absence of such claims in the data. I can conjecture that the teachers are ‘struggling’, based on the accounts that they gave in interviews, but I cannot quote this definitely.

Admitting there is a problem is implicit when asking for help. We saw above that Jane, John and Louise were all seeking medical help. But, let us consider what help is sought from within the school. Jane and Bob both sought help from their HoD when they felt overwhelmed; Louise and Brianne both approached SLT. John did not explicitly ask for help, but recognised that he should have; indeed, his advice to someone new entering the profession was:

... people have to ask for people, you know, maybe I, I personally as well didn’t ask for as much help ... As I could have done, um, because everybody else is in the same boat, but you know, and, but new, new NQT teachers or PGCEs should, should ask for help ... If they need it, um, you know, they have to (John 5).

Louise reported feeling isolated in schools; for instance, being one of only a few members of the NUT in her school made her feel quite alone. Similarly, to John and perhaps ironically given her own accounts of feeling isolated, she advises: ‘don’t think you are on your own [laughs], I guess’; she suggests going to ‘conferences and training sessions and find people outside of your school’ (Louise 5). I believe that neither Louise nor John recognised the need for help nor successfully asked for the help they needed and, therefore, could not effectively negotiate a path to remaining in post. As discussed in Chapter 2, Troman and Woods (2000) would describe their ultimate trajectory as ‘retreatism’.

Jane, on the other hand, displays her personal resilience through self-managing, a behaviour described by Troman and Woods (2000) as ‘downshifting’ – which involves ‘reducing workload, responsibility and status’ (p.262). Jane is the epitome of a downshifter; she twice gave up responsibility within the school, first as acting HoS and second as KS3 co-ordinator. In doing so, she reduced the responsibility on herself and therefore the resulting stress:



For me the biggest change is becoming a main scale teacher, it's amazing [laughs], which is really good (Jane 5).

Inevitably, Jane has also incurred a reduction in her salary:

... the money issue is difficult, don't get me wrong ... and I filled in a home tutor's application form three weeks ago, it's still on my fridge, 'cause I'm not sure if I want to take that on yet (Jane 5).

In the final interview, Jane was healthier and happier and she talked of having time to go to the gym and spend quality time with both her children. Bob also cryptically mentioned in his final interview that some of the responsibilities of KS4 co-ordinator are being taken off him, again in a potential act of downshifting in order to remain in post.

Jane and Bob's ability to downshift may also link to the personal characteristics mentioned above. They both felt confident enough to admit they could not achieve all that was being asked of them, without feeling they would be judged as failing. Returning to the pragmatic considerations for remaining in post discussed above, they needed these jobs financially, so they needed to make them work. Jane and Bob had to be resilient to remain in post. If they tried to achieve the impossible they would not survive, but downshifting their roles allowed them to do so.

### **7.1.5 Pragmatics**

Having discussed teachers' initial motivations and in-post resilient strategies, there is a further personal layer to explore as to why teachers remain in post – which I term pragmatism. My analysis of the data revealed that there are strong pragmatic reasons for teachers to remain in post. This sense of pragmatism may not appear very profound but, I argue, should not be underestimated. In my view, this notion of practicality is both new in the literature but also unsurprising. Below, I share three pragmatic reasons for teachers staying in post.

#### **7.1.5.1 Convenience**

Firstly, the convenience of a school location was mentioned as a retention factor. For instance, what mattered to John was his journey to school:

it's also convenient for me you know as well, I live like 20 minutes away, I cycle in or drive, that's also very convenient for me ... a long commute adds to stress levels, and I think in teaching you are going to have as low, actually travelling, you don't want to be travelling for hours to a job which is, in the end, I do like it, it can, it is stressful to some level (John 2).

Similarly, Louise initially applied for the job due to the short distance between school and home, 'within five miles of my home address'. Having a school staff car park also meant she was able to drive, shortening her journey time and making it easier for her to take pupils' books home to mark. When space was at a premium, due to the BSF project, car parking spaces were awarded under certain criteria. Louise did not qualify; she lived too close and did not have children, so she lost her parking space. As a result, she was forced to use public transport or car share, and admits this increased her stress levels, contributing to her decision to leave.

Once Bob moved home, he also commented on the longer commute. At the end of the data collection period, Bob had not left but it was clear that the longer commute was becoming an issue for him. Jane, on numerous occasions, noted the school location as being convenient for her and her family. One child was in a nursery and the other was at a school near to where they lived; both were on the car journey to school. Convenience of the commute to school was one pragmatic consideration that emerged as to why the teachers stayed (or at least contributed to their rationale for staying).

#### **7.1.5.2 Financial reward**

A second pragmatic reason for staying in post was money. Ingersoll (2003) and Dolton and van der Klaauw (1995) reported that low salaries were contributing factors for teachers leaving the profession in the US and UK respectively. However, like Frijters et al. (2004), I found teachers to be much more positive about the financial aspects of teaching, and some suggested that their pay was good and a reason to stay.

Bob looked at jobs he considered to be 'pretty interesting' outside teaching but then he looked at the pay and realised that 'it's quite a pay cut, I mean that's the problem with teaching, not a problem, it's a very nice problem to have, that you are very well paid' (Bob 2).

Teachers' starting salaries are now quite competitive, especially when compared with other science-related salaries. Also, until the recent introduction of 'performance-related pay', teachers received annual incremental pay increases, and teachers who passed the 'threshold' were paid on a higher pay scale. In addition, teachers can also take on responsibilities in the school, which come with financial reward. John's stated motivations for remaining in teaching were firstly 'the kids' and secondly 'the money':

John: I think it's okay, you know, for what it is, I mean, I love, you know, the fact that I, you know, err, I went from £20[k] whatever, when I finished, £27,000 and then finished on ...

**AM: Yeah, so you, you were on £27[k] ...**

John: When I started, yeah.

**AM: When you started.**

John: And then, err, which, you know, err, and then I finished on £30[k], was it £37[k], £37[k], really, yeah.

**AM: So you went up £10,000 in five years?**

John: Yeah, you know, so to me, who's never worked on that before, because I, I used to work for local government before and I was on 21 ...

**AM: Right.**

John: At the most, £20[k], £21[k] at the most and ...

**AM: And how much responsibility did you have to take on, in order to get that increase?**

John: Err, in ...?

**AM: In teaching.**

John: Responsibility?

**AM: Over those five years.**

John: Err, in terms of ...

**AM: Like did you have to become Head of Year or ...?**

John: No, that's just...

**AM: So that was just time?**

John: That's just, that's just the main scale, you know, that's just only the main scale ...

**AM: You didn't have to take on any additional ...?**

John: No, generally, you know, just doing the stuff that other teachers do, you know. I mean, you know, you, you contribute to your meetings, you do your schemes of work ... (John 5).

So, John's last position before teaching was in local government, where his annual salary was £21,000; after completing the PGCE course his starting teaching salary was £6,000 more, at £27,000. John's final salary was 'nearly £37,000'. This included the small premium of the 'London weighting', as he worked in an inner London borough. This undeniably shows that teaching is competitive in the pay market; the BBC reported that the UK average salary in 2012<sup>30</sup> was £26,500.<sup>31</sup>

The teachers not only spoke positively about the amount they were paid; they also spoke of the complex issue of financial commitments. They recognised that the job they had enabled them to pay their current mortgages or rental rates and therefore kept them in post:

I mean, if I'm honest, if I didn't have a fixed rate mortgage that I'm tied to for another, what, 18 months, I may have gone already (Jane 4).

### 7.1.5.3 Choice versus no choice

A third pragmatic consideration could be termed 'better the devil you know', where teachers stayed in post due to stagnation and complacency, i.e. while the teachers recognised that things were not ideal, they were not entirely sure that they would be happier elsewhere. To draw on another well-known phrase, the teachers were not convinced that the 'grass was always greener' somewhere else. Bob is typical of this type of contemplation; he feels he has a 'fear of leaving' and does not necessarily believe it is going to be better anywhere else:

There are some things, I love the staff here, and I like most of the children.  
I find it incredibly difficult. When I look around for job adverts, I see so

<sup>30</sup> The interview took place at the end of 2011.

<sup>31</sup> <http://www.thisismoney.co.uk/money/article-2269520/Best-paid-jobs-2012-Official-figures-national-average-UK-salaries-400-occupations.html>

few things, in teaching that makes me go ‘ohhh’, now it’s always head of Key Stage 4, head of department and I read it and go well, unless I look at the schools, who knows what it is going to be like, I know what the job is, and so I think might as well do it here (Bob 2).

In the same interview, I probed Bob’s reasons for remaining in the school:

That’s a really difficult question to answer ... I don’t know ... I really don’t know ... it’s an incredibly passive, convenient thing to say (Bob 2).

And again in the next interview:

I’m almost too settled here (Bob 3).

In the same way, Jane talked of how her familiarity with the school contributed to her staying in post:

And I just don’t think I’m in a position right now to go off and start again somewhere else ... It, it, it’s just because I know that if I start at a new school, I have to establish myself again and that is very draining ... And I would have to do it properly or I’d end up, you know, being, having liberties taken and I’m not ready (Jane 4).

Both Jane and Bob felt there was safety in staying, while Louise and Brianne resigned their positions in the school in the hope of finding something better. Brianne chose to leave science teaching and Louise moved school in the hope of finding more fulfilling positions. I believe Jane and Bob’s reasons to stay were intertwined with all the other pragmatic considerations discussed earlier in this section. They had more commitments, dependents and responsibilities than the other two teachers; hence, ‘leaving’ became a riskier option for them. As explained in John’s story (section 4.18.3), his situation was more complex; however, I feel that he too had commitments that made staying more attractive to him and, at least initially, he was attempting to stay.

One way to frame the issue might be to assert that optimists like Brianne and Louise think the grass will be greener, whereas pessimists/pragmatists like Jane and Bob know it is not; while John falls into the ‘no choice’ category. John’s options were, in the end, removed, in that his fate was decided for him and he had no choice but to leave.

To complicate and further explain, I would argue that the ‘better the devil you know’ viewpoint is not just a choice but can also be resignation reflecting a forced position, i.e. I suggest the pragmatic rationale can arise from lack of opportunity to leave. Despite all participant teachers expressing concerns about their posts in the interviews, they did not all act on these reservations. Bob is a classic case in point: he always seemed to be half thinking of and talking about or taking action to leave, but in the time I was collecting the data, he did not actually move on. He took the occasional serendipitous action, but never really actively pursued leaving, as is evidenced by the few examples I have selected below from each interview.

I speak to many friends and colleagues from different schools (Bob 1).

I didn’t really enjoy the job in the first year at all ... I look around for job adverts ... I have applied for one job (Bob 2).

[When discussing possible redundancy] I thought about it. If it, if it was financially viable I would have done it ... I look at other jobs and I go, theoretically, it’s the same job I’m doing here, so... (Bob 3)

Err, I have, however, applied for a job’ (Bob 4).

Bob decried the post as being outside of teaching, with a big pool of applicants: ‘I’m going for it and we’ll see what happens’ (Bob 4). In Interview 5, I learnt that Bob did not get the job: ‘poor, is where I am at’ (Bob 5). I would conjecture that had Bob been offered the new position, he would have taken it. He was ready to leave, but in reality, lacked the opportunity to do so. In order to live in a home better suited to family living, Bob had moved further away from the school, but this resulted in a long commute time; ‘um, well, I would like to get a job close to where we live’ (Bob 5). All Bob’s talk of leaving is indicative of his desire to leave, but also lack of opportunity to do so.

I have described three pragmatic reasons to remain in post; convenience, financial matters, and choices versus no choice. In section 7.1.1, both Brianne and Louise shared that they do have other options than to remain in post. They do not experience the same pragmatic constraints. Brianne does not have a family to support and Louise has a partner who can support her. They have the luxury of ‘choice to leave’ open to them; they have other options than to remain.

## 7.2 Conclusion

In this chapter, I have explored the teachers' experiences and factors influencing retention and attrition, through the lens of Day et al.'s (2006a) personal identity dimension. All the teachers exhibited some level of stress and complaint, and yet not all respond to this by leaving. I highlighted the various factors which contribute to an inflated personal identity dimension and then discussed the reasons why some teachers choose to leave and why others do not.

The reasons to leave might appear obvious; we have seen that being an urban science teachers is a challenging role, which makes many physical and emotional demands on individuals. However, I now turn to reasons why teachers do stay. In this chapter, a number of drivers arise as reasons to remain in post. Firstly, a teacher's initial motivations play a part; and I have argued that expectations of the urban science teacher role need to be grounded and realistic, so teachers are fully prepared for the position. Secondly, pragmatic reasons for staying were surprisingly prevalent, such as financial reward and convenience of the school's location. The third, final and arguably most significant point is whether teachers do indeed have a choice to leave, or not. 'Choice' was not a 'luxury' open to all; Brianne and Louise could choose to leave, while the other three teachers were more constrained by other aspects of their lives that made leaving a 'non-choice'. Consequently, these teachers were obliged to manage their role within the school, because leaving was not really a realistic or viable option for them.

In the final chapter that follows, I will draw together these three findings chapters on each of the identity dimensions: professional, situated and personal. I will do this by revisiting my initial research questions and summarising possible responses, drawing out the conclusions of the thesis. I will subsequently discuss the research strengths and limitations, and finish by considering implications of the study.

## **8. Discussion, Conclusions and Implications**

Having presented my three findings chapters, corresponding to Day et al.'s (2006a, b) identity dimensions (professional (Chapter 5); situated (Chapter 6) and personal (Chapter 7)), I now draw the dimensions together by returning to my research questions:

1. What are the day-to-day experiences of five science teachers in one urban school?
2. How do the teachers construct their role as urban science teachers and what influence do the participants' professional, situated and personal identity dimensions have on this role construction?
3. How do the participants' experiences and role construction influence their career decisions and, in part, affect why some of them remain in post while others do not?

In this chapter, I attempt to address each of my three research questions in turn, discussing my findings and relating these to the literature. However, I am aware that blurring the boundaries between the research questions can be problematic. I will argue that the daily experiences of urban science teachers are both complex and challenging, and that these experiences can be understood through the lens of Day et al.'s (2006a, b) identity dimensions. Each identity dimension contributes to the overarching construction of urban science teacher experiences, and I suggest ebbs and flows in dominance between dimensions (and resulting (in)stabilities) played a part in influencing teachers' experiences and whether, or not, they remained in post. Ultimately, I will emphasise the particular importance of the personal dimension as a way of understanding why some urban science teachers remain in post, while others do not.

### **8.1 Research Question 1: What are the day-to-day experiences of five science teachers in one urban school?**

The most obvious adjective to use to describe the teachers' experiences is 'busy': 'it's busy, this place is busy ... this place is mad' (Bob 1). The five participants all had a full teaching timetable and, at various times, additional responsibilities associated with their roles. These roles included head of science (HoS), mentor and primary school link tutor. These commitments made heavy demands on the teachers' time while in the school building and outside the school's 'opening hours'. The length of time spent in school each day varied between the teachers; however, while in the building they were fully occupied.



Breaks and lunchtimes were often spent ‘on duty’ or working in isolation in their individual labs/classrooms. Bob and Jane did find a small amount of space in the day, though for very different reasons. Jane was a smoker and left the building in order to have a cigarette, and Bob was peripatetic and did not have his own lab, so *de facto* needed to position himself elsewhere during non-teaching times.

The teachers all arrived before the start of the school teaching day so that they would be ready for their registration and lessons. At the end of the day, all five reported that they took work home each evening, to stay on top of their workload. Some stayed later than others, some took more work home than others; some also reported working during weekends and school holidays. Louise reported working to 10pm on weekdays but ‘Saturday is spent de-stressing’ (Louise 2) and on Sunday afternoons she became ‘anxious about school again’ (Louise 2).

As discussed in Chapter 3, the VITAE team explored teachers’ lives in detail (Day et al. 2006b). My findings echo those of Day et al. in that teaching involves heavy workloads with which most teachers struggle. Indeed, Cucchiara et al. (2013) claim that ‘they have never seen people work so hard’ (pp.1–2) when reflecting on the teachers in their study. This workload can be considered to lead to both positive and negative stress (Mujtaba and Reiss 2013). Negative stress can lead to long-term distress, a condition explored by other researchers (Troman and Woods 2000; Griva and Joeke 2003). Teachers’ days are extremely busy and hugely demanding. This pressure does not necessarily need to be a negative aspect of teaching; indeed, challenge, for some, can be a reason to enter the profession (Day et al. 2006b:46). Anderson and Olsen (2006) have also explored teachers’ reasons for entering the profession and the subsequent reasons that they ‘think about shifting’ (p.18). Teachers’ experiences while in the profession contribute to their role construction, and it is to this aspect of the study that I now turn.

As was highlighted in Chapter 3 above, Rinke (2014) draws all such ideas together, without heavy reliance on identity, in her recent book. In many ways, her work maps on to my research; she discusses eight case study US urban science teachers. The majority of the book describes the case study teachers in great detail. My findings echo hers; my UK teachers’ day-to-day experiences reveal urban science teaching as a role with a heavy demand, both physically and emotionally. However, my thesis attempts to bring additional insights through the application of Day et al’s (2006a, b) dimensions as an analytical lens.

## **8.2 Research Question 2: How do the teachers construct their role as urban science teachers and what influence do the participants' professional, situated and personal identity dimension have on this role construction?**

The first point to draw out is that my findings indicate that the urban science teacher role is not as transparent as the title implies. Being an urban science teacher is not simply being a science teacher in an urban setting. The data collected from the participant urban science teachers almost exclusively concerns their role as a teacher in the urban locale. My data suggests that being an urban teacher almost completely eclipses being a science teacher. While I acknowledge that my sample is small and the teachers were not explicitly asked to focus on the science teaching aspect of being an urban science teacher, I still contend that my finding is significant. This disparity between the prevalence of the urban over science in teachers resonates with the findings of Hewson et al. (2001) highlighted in Chapter 2.

Additionally, I would argue that the prevalence of the urban over the science identity could be mapped on to identity discussions of Chapter 3. Multiple identities can be complementary or antagonistic. If the urban and science identities are complementary, giving rise to a stable and secure identity, this, in turn, could contribute to a teacher remaining in post. Jane, in her first interview, describes the informal science opportunity available to teachers in the city, such as museums and science centres. This shows coexistence; the complementarity of both urban and science identities.

Conversely, if the science and urban identities are antagonistic, then identity conflict arises. Brianne describes the dominance of urban issues, which then eclipses the science identity. Carlone and Johnson (2007) have described individuals' science identity as how individuals 'make meaning of science experiences and how society structures possible meanings' (p.1187). If such an influential aspect of one's identity is eroded/diminished by 'urban-ness', then, as an urban science teacher, one's identity can become unstable. I would further argue that this identity conflict affects one's capacity to remain in post and contributes to the decision to leave, as in the case of Brianne.

The importance of science within teachers' motivations to stay or leave is further supported by the findings of Eick (2002). Eick argued, in the US context, that science majors entered the teaching profession for the science, while science education majors entered the profession for the students. Three of my five participants could be considered 'science majors'; Bob, John and Louise completed a PGCE after their undergraduate

degree; while Jane and Brianne completed combined degrees, so they are, under Eick's classification, 'science education majors'. Louise presents as a teacher with a strong science identity. I have described above how this might jar with the urban identity influence; whereas Jane's combined degree provides a more fertile platform for both the science and urban identities to flourish.

There were other motivations involved in the decision to become a science teacher. The career changers, Bob and John (and to some extent Jane), were looking for new experiences and challenges. Teaching certainly provides challenge; and so for Bob, urban science teaching has provided to the challenge for which he was looking.

Role construction also draws on participants' life histories (Goodson 1994), their subsequent expectations of the role and their current lives. Considering the teachers' life histories, I was able to explore their stories so far. I could identify whether they were seeking to work in a school context that was familiar to them (e.g. Jane) or looking for a new challenge (e.g. John), or if their choice of school was serendipitous (e.g. Bob). It followed that the reasons teachers chose their school influenced their expectations of teaching in that setting. For example, those like John, who was looking for a new challenge, did not expect it to be quite so challenging: 'I found it quite tough, tougher than I thought it would be' (John 1); while Jane, returning to an urban school, meant that she already had her eyes open, and knew what to expect. Conversely, Bob accepted the post with little knowledge of the context and, therefore, had no preconceived ideas *per se*.

Student teachers' notions of 'becoming' a teacher have also been studied (Smart 2006; Hillier et al. 2013). Smart (2006) acknowledged the importance of PGCE students' aspirations; the type of teacher they wanted to be, the subject with which they associated and the type of school in which they wanted to teach. If there is a mismatch between aspirations and current practices, then one's role may need to evolve. Louise is a case in point; she had very specific expectations of schools and leadership, and in all three schools she taught in, these were not met. This suggested that Louise could not resolve these differing expectations, and she therefore left the profession.

Hillier et al. (2013), on the other hand, focus on physics teachers and the emergence of their expectations of the role. In this respect, Bob's experience is relevant, in that he reported entering the profession with no strong convictions, though he subsequently

found that teaching was a career in which he thrived. This finding resonates with Knoblauch and Woolfolk Hoy's (2008) study, in that placing student teachers in challenging settings enabled them to develop a sense of belief in what they could achieve; that is to say, increasing their self-efficacy.

Over time, the participants continued to construct their roles through their work and through the interplay between the three identity dimensions: professional, situated and personal (Day et al. 2006b). These three dimensions needed to be in reasonable equilibrium most of the time in order for the participants to achieve stability in their lives. I found that imbalance was more inclined to arise from instability/tensions between situated and personal aspects of one's experiences. For example, an imbalance in the situated dimension might come about due to a school Ofsted (Jane/Bob), a change in head of department (HoD) (Louise/Brianne) or because of building works in the school (Jane/John); see Figure 8.1 below. In this case, the enlarged situated dimension of the representation introduces imbalance; this was described as Scenario 2 in the VITAE project.

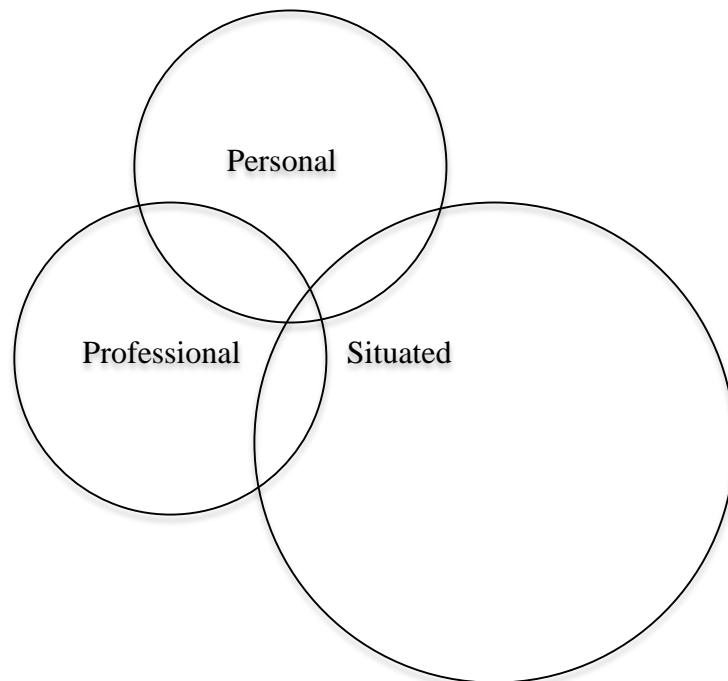


Figure 8.1: Imbalance in identity dimensions (situated enlarged).

Personal aspects might be concerned with health issues (Louise/John), changes in commute times as a result of moving house (Bob) or home responsibilities (Jane); see Figure 8.2 below. In this case, the enlarged personal dimension of the representation introduces imbalance; this was described as Scenario 2 in the VITAE project. While a different dimension is dominant, the scenario is the same, as only one dimension is dominant.

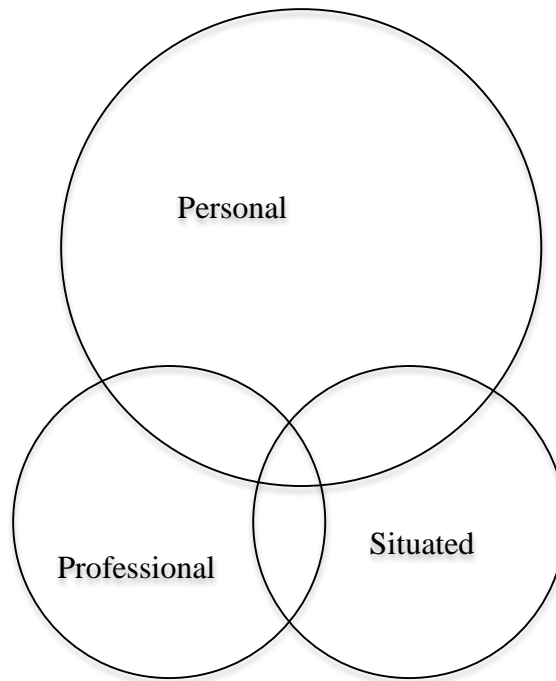


Figure 8.2: Imbalance in identity dimensions (personal enlarged).

It is difficult to measure and represent quantitatively the shifts in identity dimensions. In the two figures above, I have merely drawn bigger circles to represent imbalance. It is not possible to compare, numerically, the difference in effect of Jane's 'home responsibilities' with John 'health issues' on their respective personal identity dimensions. Nor is it feasible to ascertain the difference between the effects of Ofsted to those of HoD issues for different individuals' situated dimensions. However, I would contend that the relative dominance and (im)balance of the identity dimensions is discernable through the teachers' talk. For example, in Bob's fourth interview, situated themes are dominant, namely, in relation to themes of monitoring, the HoD and support; while in Louise's third and fourth interviews, personal themes feature more frequently, such as stress and health.

When one or more dimensions were more frequently coded with an interview, I interpreted this as reflecting an inflation in that/those dimension(s). Changing patterns of inflation, apparent in my findings, supports Day et al.'s (2006b) contention that there are

changes in dimension dominance over time. However, I found that imbalance between the dimensions was more often than not the norm for my participant teachers. The five teachers rarely presented as if they were in relative equilibrium; rather, the interviews suggested a constant ebbing and flowing of the dimensions.

Below in Figure 8.3, I have attempted to map a possible representation of Jane's shifts in dimensions sphere dominance over all five interviews. Such a representation is very much an oversimplification of the richness included in the full interview data.

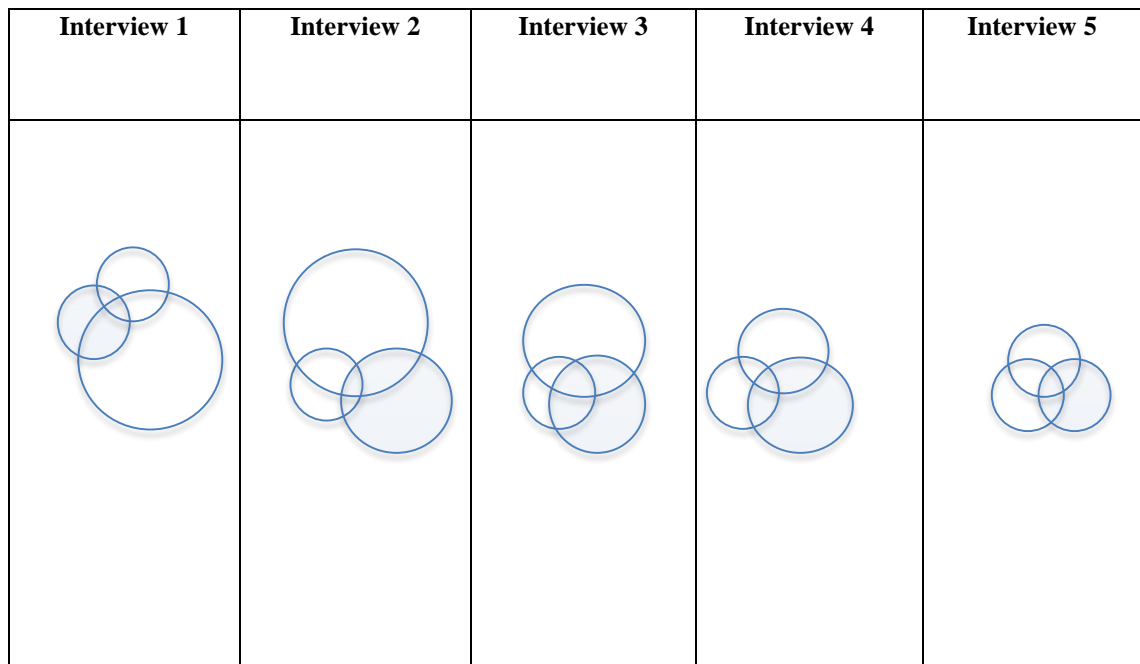


Figure 8.3: Shifts in identity dimension dominance over the data collection period.

In **Interview 1**, Jane's situated dimension is dominant, as she was acting HoD, and undertaking the role reluctantly.

In **Interview 2**, Jane has relinquished the HoD role and is only Key Stage 3 (KS3) co-ordinator, reducing the situated dimension, though the KS3 role and team dynamics do leave the dimension slightly inflated. Also, the arrival of her second child has resulted in an increase in dominance of the personal dimension.

In **Interview 3**, the inflated dimensions are again reduced, as a result of a good new HoD (situated) and Jane finding time to return to her academic studies (personal).

By **Interview 4**, Jane had relinquished her KS3 responsibility, but the school redundancy situation does leave the situated dimension a little increased.

In **Interview 5**, the dimensions are in relative balance. Jane's youngest child is older and therefore more settled; her oldest child is able to do more for himself and also able to support his Mum, resulting in a more stable family life and less inflated personal dimension. Similarly, Jane has carved out a teaching role that works for her and is enjoying being an urban science classroom teacher.

As stated above, this mapping of Jane's experiences and dimension dominance only scratches the surface of the complexity of each of the teachers' lives. It does, however, exemplify the ebbing and flowing that must be navigated by my teachers. To some extent, Day et al. (2006b) describe a less constant flow of dominance within their work. The significant point that I identified is how teachers in the study responded to the imbalance. I would assert that Jane and Bob could redress the balance, while John, Brianne and Louise were unable to do so. It is this ability to redress the balance that plays a significant part in my line of argument and which, I argue, is a significant contributing factor to the participants' ability to remain in post or not.

### **8.3 Research Question 3: How do the participants' experiences influence their career decisions and, in part, affect why some of them remain in post while others do not?**

As I have argued in relation to the first two research questions, urban science teachers experience busy and stressful lives, which can contribute to imbalances between the different identity dimensions. The ways in which individual teachers navigate those pressures influence the teachers' career choices and trajectories. If the role does not meet their expectations, then teachers need to re-evaluate the role and/or their expectations. Subsequently, they may reconsider their commitment to both aspects (the role and their expectations).

Teacher commitment can wane with time (Henkin and Holliman 2009). Since commitment can be seen as significant with respect to teacher satisfaction and, therefore, retention, it is important to consider how it might be maintained as one's career progresses. While Henkin and Holliman argue that commitment falls off with experience, Kearney (2008) is concerned with teachers' satisfaction early in their careers. It would appear, from both the literature and my research, that many teachers fail to reconcile themselves to their notion of the role of urban science teacher and subsequently lack sufficient commitment to remain in post.

Studying teachers' careers is by no means a new approach (Riseborough 1981); however, since high numbers of teachers are still leaving the profession (Worth et al. 2015), nationally (Frijters et al. 2004) and locally in London (Noden 2003), it would appear that their career trajectories are still not fully understood and remain worthy of continued focus.

Like Eick (2002), I feel a useful place to look for an answer to the question of why teachers stay in or leave their jobs is within their personal histories. Teachers' reasons for entering the profession are very relevant. In my data/sample, my participants provided various accounts of their journeys into teaching. Contrary to my expectations, those with a high level of vocation showed the lowest levels of satisfaction and retention. Brianne and Louise's life histories revealed teaching as being their first post-education role, and both had strong notions of becoming urban science teachers, yet both left teaching over the course of the study. On the other hand, Bob, Jane and John all came to teaching after other life experiences, and had possibly more realistic notions of the role. Jane described her return to the city:

I just thought I want to go back to London, I want to teach in the city, a little thing inside me, it sounds quite cheesy inside, but there was something inside me that really wanted to go to London and teach and be in the city. It's the place where I come from (Jane 2).

This study's findings echo much of the work of Carol Rinke (2007, 2011, 2013). In her doctoral research, Rinke initially focused on eight urban science teachers in one school district. Using qualitative methods over a two-year period, she explored their 'career moves'.

In my study, set in London, I, like Rinke, found that teachers' careers are journeys that need to be navigated. They do not, however, navigate alone; they do so with or against their surroundings, which might be physical or social. It is these navigations and their experiences of navigating that contribute to their career decisions.

Teachers need to feel valued, trusted and supported in their roles. This is true regardless of their level of experience/expertise. Teachers doing well need to have this acknowledged (e.g. Louise); those doing less well need to be supported to improve or navigate their role (e.g. John). If they do not experience these important factors, then they may seek to find them from their peers or management within the school. The fact that



most of the teachers did not feel trusted or respected (Brianne) and felt that it was necessary to ask for such fundamentals (Jane) does not bode well; but also, the nature of the responses of peers or managers to requests for trust and respect has an impact. For instance, Jane, in handing back her HoD post, and being allowed to do so, was reconciled, and the balance between competing identity dimensions was redressed; while Brianne's request for QTS support was not addressed, and so the balance for her was not redressed.

Unaddressed imbalances in identity dimensions can lead to teacher dissatisfaction. Louise described poor support from SLT when she asked about coping with heavy workloads: 'I just got told I wasn't committed to making a change in the borough' (Louise 3); this resulted in further dissatisfaction for Louise. Day et al. (2006a) claim this dissatisfaction results in various inflations of particular identity dimensions. In order to redress the imbalance, teachers need to adopt strategies which attempt to restore the balance; that is, they need to respond or adapt. Let us take a case-by-case view of each participant teacher and their 'adaptation' (Troman and Woods 2000) to their circumstance/situation. These adaptations were introduced in section 2.5: 'retreatism', 'downshifting' and 'self-actualisation' (including 'rerouting' and 'relocation').

Louise resigned from teaching positions in three different schools during this research. In each case, she felt dissatisfied with the school. While these actions might be seen as 'relocation' (Troman and Woods 2000:267), I suggest that it would be more appropriate to consider her experiences as 'retreatism' (ibid:260), as escaping the school she was in still did not result in Louise finding fulfilment. However, an alternative interpretation might be more concerned with Louise's expectations of the role. Across three different schools, the common element seems to be Louise. It could be argued that her expectations of the role and of herself were unrealistic. Louise worked exceptionally hard and, I would say, unsustainably hard, ultimately leading to burnout (Griva and Joeke 2003) and resulted in her leaving the profession.

Brianne might also, and more justifiably, be labelled as having 'retreated', as she submitted to change and described herself as becoming 'jaded'. I say 'more justifiably', as Troman and Woods (2000) find this a common adaptation of those nearer retirement. While Brianne is not near retirement age, she was the most experienced of the teachers with many years of experience as an urban science teacher. Troman and Woods (2000) also describe 'internal retreatism' as an adaptation of a bygone era. Before the heightened levels of monitoring in schools, I believe that, if there were less surveillance in school,

Brianne would have happily ‘internally retreated’, and withdrawn ‘[in]to the classroom’ and worked in isolation (p.260). She was passionate about her job and the children, but it was everything else that bothered her: the department, the management and the ethos, to name but a few factors.

Jane can be categorised as ‘downshifting’ (ibid:262). She reduced her workload by resigning first as ‘acting HoD’, then from the role of KS3 co-ordinator. Jane was prepared to lose job status and responsibility in order to reclaim her role as an urban science teacher and to attempt to redress imbalance across identity dimensions. Losing the HoD role might be considered as ‘planned demotion’ (ibid:262), while relinquishing the KS3 responsibility more of a ‘role reduction’ (ibid:263).

Bob is a little more complicated: while I can see elements of ‘downshifting’ when he spoke of others taking up some of his KS4 co-ordinator workload, I believe that he moved towards ‘self-actualising’ (ibid:265). In the final interview, Bob was beginning to make ‘the most of change and looking for opportunities for development’ (ibid:265). In becoming a father and moving across London, he recognised that his priorities were changing, and in the last interview his focus was on himself and his needs with respect to his family. In this way, he was beginning the focus on the ‘self’ and how he might move to another position that would better suit his needs.

The hardest participant to categorise appeared to be John. In my view, his experience does not fit easily into Troman and Woods’s (2000) ‘adaptations’. When John applied to go part-time as part of the voluntary redundancy plan, he was exhibiting ‘downshifting’, specifically ‘role redefinition’ (p.264). However, John’s health concerns mean that the adaptations are difficult to define as a voluntary response. The final outcome for John was extreme ‘retreatism’; to submit to the school’s demands. It appears that John was given no option but to submit to the difficult situation he found himself in and leave the school.

It is apparent that Troman and Woods (2000) offer distinct categorisations of teachers’ adaptations to job stress, yet my teachers’ personal responses reveal blurred boundaries between the adaptations. Individuals will experience their own reality, slipping between these defined labels, as can be seen through the case-by-case view above of each teacher. Teachers can exhibit multiple adaptations simultaneously and consecutively. In my view, the interesting point is not what adaptations/responses teachers exhibit, but why they

respond in different ways to similar situations? Why do some make choices to remain in post (McIntyre 2010a, b) and others do not? Some teachers are able to negotiate the terrain of their lives and redress the balance, while others do not wish to or know how to cope. I suggest that a difference in teachers' levels of resilience is a possible explanation as to why some teachers remain in post and others do not, thus extending my line of argument in understanding teacher attrition.

All the teachers had the same 'pull' factor, which encouraged them to remain in post; that 'pull' factor was the pupils. This, in itself, challenges common notions of the urban context, where diverse urban pupils are often perceived as a 'push' factor. However, despite having the same 'pull', they did not all remain in post. I would assert that this can largely be explained by the teachers having different levels of resilience. Related to McIntyre's UK thesis are two US doctoral studies examining why teachers stay in the job (Walker 2004; Lastica 2012). Walker (2004) found that urban teachers remain in post if they experience satisfaction and commitment, which is achieved through effective working with urban children and good collegial relationships. Similarly, Lastica (2012) found that science teachers remained due to a 'profound love for their students, a deep admiration for their colleagues and a strong sense of mission' (p.ix). The findings of all these studies resonate with mine. All my participants spoke primarily and positively about the pupils in their classroom. However, let us look more closely at the impact of colleagues, departments and management, as this appears to be where the 'pull' factor is absent and so resilience must be high.

I interpret this second aspect, the impact of colleagues, departments and management, as most strongly influencing Louise and Brianne's decisions to resign. The negative impact of school management, colleagues and the department as a whole resulted in the dominance of the situated identity dimension of both Brianne and Louise. Neither felt supported by the systems/managers within the school nor felt a sense of collegiality from the science department team. Ultimately, Brianne and Louise did not have the necessary resilience to sustain their role, with this identity imbalance, to remain in post in the school. However, John, who was very positive about his colleagues, was also unable to sustain his position. Jane, who shared many views about the lack of collegiality and Bob, who spent much of his time with other subject teachers and yet remained in post, equally intrigue me. I can see elements of Cicely's (Quartz 2003) 'too angry to leave'; Jane remains in post to redress social injustice for her urban pupils. Despite being frustrated with working conditions, she is spurred on by her fundamental commitment to making

life better for her pupils. The quote below shows that despite her irritations, if not anger, at the systems, the pupils provide Jane with a level of commitment that result in her staying.

To where I can go, so it, it just makes sense to stay there right now. I'm not really unhappy, you know, things irritate me at school, people irritate me at school, there's been a lot of changes in science, but the kids motivate me (Jane 4).

Again we see urban pupils as a 'pull' factor, rather than a 'push' factor. However, in addition to resilience, we should not underestimate the importance of pragmatic factors in the decisions individuals make.

The standard list of reasons for leaving often includes workload, pupil behaviour and government initiatives (Smithers and Robinson 2001); low pay is also sometimes alluded to (Dolton and van der Klaauw 1995); and yet my 'stayers', Jane and Bob, offered a different viewpoint. They had worked hard to carve out their own niche and had created a set-up that worked for them, and were committed in many ways to their positions. Commitment can have a different meaning for different individuals (Frankenberg et al. 2010) and, indeed, the commitment can be to the school but also to other responsibilities surrounding someone's working life. In Chapter 5, I explored the notion of 'better the devil you know', being prevalent for both Jane and Bob; they recognise the school is not perfect, but they are not convinced it will be better anywhere else.

... so if you think you can get something better somewhere else, people move, I think, that's, so people who stay are either really, really, really happy with their lot, resigned to the fact it's not going to be any better anywhere else, um, you know, or you're, they're going, well, actually, this is, you know, it combines with everything else, this is my situation, this is the job, this is everything that works as a whole (Bob 5).

Similarly, there is some indication that there is an element of a 'lack of any other option' at play, e.g. Bob describes his attempts to leave but is ultimately unsuccessful in securing another position. Without another post to move to, Bob is obliged to remain in post. He must be able to uphold his other responsibilities, e.g. looking after his family, as they hold him to account. In this case, Bob needs to be resilient to the challenges urban science teaching presents, as he has no other option. In contrast, Louise and Brianne did have the

option to leave. Louise could secure another teaching position and, in addition, had expressed in interview that if she did not have a post to move to her partner could support her financially; while Brianne had other career opportunities available to her too, and was not constrained to remain in post by responsibility for her family/children.

In summary, teachers' experiences influence their career decisions; their level of job satisfaction can influence the extent of their commitment to the urban science teacher role. I have argued that increased teacher resilience is one way in which we can attempt to understand teachers that remain in post. However, there are also pragmatic elements to teachers' decisions to stay.

#### **8.4 Those who Stayed, Shifted or Left**

I further address my third research question by focusing more closely on Rinke's (2014) case study typologies. She found that her eight participant teachers either stayed, shifted or left, echoing, in some degree, Smithers and Robinson's (2005) categories of 'turnover', 'wastage' and 'moveage'. Rinke's (2014) teachers' reasons for their career decisions, as with my participants, were individualised and complex. However, I want to explore more deeply her divisions; she describes 'stayers' as those who remained in teaching positions, and she labelled three of her eight case study teachers as 'stayers'. Three of my five teachers also remained in the classroom, and like hers, they did not necessarily remain in the same classrooms/schools.

I contend that 'stayers' should be considered to be those who remain in the same school or at the very least in the same urban context, like McIntyre's (2010b) teachers. All three of Rinke's (2014) 'stayers' were teaching in different schools to where they were at the start of the study; two of them were still in the same urban district, while one was in a suburban setting. From a turnover point of view, for the leadership teams in those schools this situation is less than ideal. Conversely, of my three 'stayers', two remained in the same school for the duration of the study (Jane and Bob), and one moved to supply teaching in an urban setting (John).

Those who 'shifted' had moved out of the classroom but had remained in the education field, with two of Rinke's (2014) teachers and two of mine (Brianne and Louise) represented this category. Three of Rinke's (2014) teachers had left the educational field altogether but none of mine left the field of education. I would suggest that the fact that

all five of my participant teachers remained within the field of education, if not as urban science teachers, displays an underlying commitment to education and, therefore, not total disillusionment. These figures are also shown in Table 8.1 below.

Table 8.1: Teacher typologies

Typologies	Rinke's Teachers	My Teachers
Stayers	Denise	Jane
	Matt	Bob
	Raya	John
Shifted	Alison	Brianne
	Mitch	Louise
Left	Alexandra	
	Tara	
	Charlotte	

Typology definitions aside, I also want to discuss Rinke's themes of her typologies (see Table 8.2 below) and see how these compare with my findings. I have constructed the table from the section headings at the end of each of Rinke's typologies chapters.

Table 8.2: Rinke's (2014) teacher typologies and themes

Typologies	Themes
Stayed	#1 Adjusted their approaches in order to thrive
	#2 Valued their contribution as educators
	#3 Continually explored their professional options
Shifted	#1 Faced challenges related to workload and relationships
	#2 Remaining broadly committed to the field of education
	#3 Drew upon professionalism and agency to shape their careers
Left	#1 Saw teaching as temporary
	#2 Leaving proved an extended and difficult process
	#3 Retained some lasting connection to education

While Rinke and I both adopted a case study approach, which affords in-depth understanding of individuals, this also makes it difficult to make generalisations. Consequently, comparisons between our two data sets are somewhat limited; however, I can identify some salient points.

**Adjusting approaches:** Like Rinke's teachers, Jane and Bob both found ways to navigate situations; as I have described earlier, they downshifted (Troman and Woods 2000) within the school, by restructuring the responsibilities of the school/department. John attempted such an approach by requesting a part-time contract (despite the fact that this was not achieved) and after leaving the school he did remain in the classroom, doing supply work.

**Valued their contributions:** This theme is more complex. I would contend that all five participant teachers valued their own contributions; the issue was more fundamentally about whether they felt their contributions were valued by others; specifically, members of the school leadership teams. Louise, Brianne and John did not feel they were appreciated nor recognised within their working roles; arguably, neither did Jane and Bob, but they ‘navigated’ this to remain in post.

**Continually explored professional options:** Again, my teachers reflect Rinke’s; the teachers ‘did not in any way lead static careers’ (Rinke 2014:66). All five teachers reflected upon their professional options throughout the data collection period, commenting on reasons to remain, move or leave during various interviews.

**Faced challenges:** in my view, this ‘shifted’ theme ought to also include the words ‘that they could not reconcile’. All teachers (science and other subjects, urban and other contexts) face challenges. Those who stayed faced challenges too, but they were able to employ mechanisms in their personal or working lives in order that they could remain in post. In my study, all five teachers faced challenges, as I described in the day-to-day experiences in Research Question 1. What is significant is the teachers’ ability to address these challenges. Brianne and Louise could not be resilient in the situations in which they found themselves. They both felt unsupported and unappreciated in school, and could not find a workable solution to remain in school.

**Remained broadly committed to education:** In leaving the classroom, the shifters did not leave education, which was also true of my sample. Louise was looking towards educational research and Brianne was focusing on LGBT awareness in schools. In some ways, these two felt they could achieve their personal goals better by pursuing these alternative routes. What had initially presented as commitment to teaching was in fact commitment to education, and so it appears that teaching was perhaps the wrong path but the right journey for Louise and Brianne.

**Drew upon professionalism and agency:** The underlining commitment to education, discussed above, underpins this theme. Skills, qualifications and experiences gained before, during and beyond teaching enabled the teachers to move from the classroom; Brianne as the LGBT representative in school and Louise’s PhD research have paved the way for subsequent opportunities. Jane’s completion of a Master’s degree may also do the same for her in due course.

**Saw teaching as temporary:** I did not encounter any teachers who ‘left’ education, yet I do consider my shifters to have left the teaching profession, if not education. While Rinke’s (2014) teachers appeared to take a short-term view of teaching, neither Louise nor Brianne held such a notion, so perhaps that is why they are ‘shifters’ as opposed to ‘leavers’. Oddly, Bob had the most transient view of teaching at the start of his career and appears to have developed one of the highest levels of commitment.

**Leaving proved difficult:** Again, without any who ‘left’ education completely it is difficult to comment. However, John, Brianne and Louise, who left the initial study school, did need a time of transition and readjustment, but I am not sure they would describe the process as extended and difficult, in the way Rinke (2014:100) does. John’s departure from the school was undeniably unpleasant. Louise and Brianne both felt they needed to leave the classroom, but to some extent, making the decision was the hard part; enacting it appears to have been altogether more straightforward.

**Retained some connection to education:** Once again, I am challenged by this theme. Past experiences will always feed into one’s identity, and so permanence of education is not surprising. Additionally, I would contend that all individuals are connected to education in some ways; as a pupil in the past, as a parent or as a member of the workforce/society receiving pupils from school/education. Therefore, I contend that having a long-term commitment to education is hardly a fundamental theme.

Rinke’s (2014) themes are quite action focused and rational; they do not take into account more pragmatic factors. The themes do not acknowledge teachers’ lack of choice in some situations. In some instances, in fact, it might even be considered a ‘non-choice’. I have therefore extended Table 8.2 to include my three new categories as additional reasons for staying in post; see Table 8.3 below:



Table 8.3: Teacher typologies and themes with new additional categories

Typologies	Themes
Stayed	#1 Adjusted their approaches in order to thrive
	#2 Valued their contribution as educators
	#3 Continually explored their professional options
	<i>#4 Pragmatic factors</i>
	<i>#5 Better the devil you know</i>
	<i>#6 Lack of other options</i>
Shifted	#1 Faced challenges related to workload and relationships
	#2 Remaining broadly committed to the field of education
	#3 Drew upon professionalism and agency to shape their careers
Left	#1 Saw teaching as temporary
	#2 Leaving proved an extended and difficult process
	#3 Retained some lasting connection to education

I argue that these three additional themes under the ‘stayed’ typology provide a different angle through which to view retention. Maybe, given how tough the conditions are for urban science teachers, those who can leave, do. And those that cannot leave, stay. One way to frame this might be to ask: why is leaving the exception and staying the norm? Indeed, if 50 per cent of teachers leave within the first five years (Ingersoll 2003; Rinke 2014) then staying should not be considered the norm.

The danger of the new categories I suggest is that, while they may shed light on why some teachers remain in post, they should not be seen as a mechanism to improve teacher retention. Indeed, potential ways to improve retention of urban science teachers will be discussed in the implications section of this final chapter (section 8.5).

I would suggest that the overarching messages of Rinke’s (2014) book can be understood through three of her chapter headings:

Chapter 1. Teaching as an exploratory career

Chapter 2. Teacher plans matter

Chapter 6. Listening to teachers

And so, I take her overarching messages as: teaching was once a short-term profession, with teachers seeing the position as a ‘temporal occupation’ (Rinke 2014:1); while, over time, this has changed to become more lasting, it seems that some elements of transience are re-emerging. Rinke (2014) describes this trajectory as being an ‘exploratory career’; certainly the fact that 50 per cent of teachers leave the profession within the first five years (Ingersoll 2003) supports this assertion. Brianne and Louise left the profession during the research period; for Louise, this was within that five-year statistic, while

Brianne taught for longer. Interestingly, interview data finds that neither Brianne nor Louise entered the profession holding an exploratory view of teaching. If anything, the converse is true. Jane, Bob and John entered the profession later in life with a more exploratory approach. These three had prior working experiences and came to teaching to challenge themselves with something new.

Rinke (2014) merges her ideas of exploration into a concept of intention permanence. She claims that teachers' 'initial plans remained consistent over time' (pp.13–14). By comparing this finding with mine, there are two points to draw out. Firstly, she is concerned with her participants' commitment to education; this is not the same as a long-term commitment to being a classroom teacher, let alone – more specifically – continuing to be an urban science teacher. I was concerned to know about their commitment to being urban science teachers. All five of the participants remained committed to education; for me, this is not the issue, because what matters to me is who remains in the urban science classroom.

The second point is that Rinke (2014) claims that commitment is conserved and teachers' plans matter. This was gleaned from survey data (Rinke 2009, 2011) and the case study teachers. However, in my small group of five, this did not seem to be the case. Those who had come to the profession highly motivated and determined to make a difference to the lives of urban children, Brianne and Louise, had left the profession. Those who were 'exploring' teaching, Jane, Bob and John, appeared to be more resilient. While I recognise that my small-scale study does not provide enough data to challenge the findings of others, I do believe this issue is worth further study. My findings seem to imply that if one has unrealistic expectations of what an individual can achieve as an urban science teacher, one may feel, in some way, let down by the experience. They/the role did not fulfil their initial expectations, but did achieve the purpose of their motivations.

So, in my view, it makes sense to close this section with a reference to Rinke's (2014) closing chapter, 'Listening to teachers', as it closes the loop with my earlier mention (Chapter 3) of adapting Spivak (1988) and *asking the teachers to speak*. We should not only let the teachers speak; we should also listen to them. In talking and listening, interviewing five urban teachers, I was able to more fully understand:

1. Their day-to-day experiences;

2. How they constructed their role as urban science teachers and the influence that professional, situated and personal identity dimensions had on this role construction; and
3. How experiences and role construction influenced their career decisions and, in part, affected why some of them remain in post while others do not.

The response to the three research questions can be summarised as follows:

Firstly, while working as an urban science teacher can be both rewarding and varied, it can also be both challenging and complex. The role makes heavy demands on individuals, to which they need to respond. One factor shaping teachers' experiences and responses is their individual motivations and expectations when entering the profession. Individuals' life histories can go some way to understanding differences in motivations and expectations.

Secondly, teachers undergo a process of 'becoming' urban science teachers, and within this is a development of an urban science teacher identity. I have argued throughout this thesis that identity is neither fixed nor singular. In becoming an urban science teacher, individuals must not only manage the transition to becoming a teacher, but also navigate shifts in their science identity and growth in their urban teacher identity. These shifts may give rise to complementary or conflicting identity dimensions.

Third and finally, the multifaceted nature of urban science teachers' identity has been explored by considering their professional, situated and personal identities. Despite the increase in volume of educational policy in the UK, the professional dimension for my teachers was the least influential identity dimension with respect to their career decisions. The situated and personal aspects of the teachers' identities were far more significant for the teachers' decisions to remain in post. 'Situated' influencers included school support systems, collegiality and urban pupils, while 'personal' influencers included work-life balance, level of resilience and various pragmatic factors. It is these pragmatic factors, which, while not surprising, I would argue are new to the research field. Family commitments and logistics introduce an element of 'non-choice' with respect to leaving for some urban science teachers. We have seen that urban science teaching is demanding, and some ultimately choose to leave; while others, especially those who do not have the luxury of choice available to them, seem more likely to 'make do' and stay.

### 8.5 Implications of My Study Findings

While I hope that my findings can contribute to advancing knowledge in the field, I am particularly concerned that my work can offer insights for policy and practice. For me, it is this ‘so what’ factor that can make findings relevant. I have highlighted above the key points I feel I have added to the research field of urban science teachers. Below, I present the implications of the findings for urban science teacher retention. The implications are presented for various audiences; policy makers, researchers, teacher educators, schools and individual teachers.

Much of the policy rhetoric surrounding urban science teachers is focused on recruitment. While it is important to attract individuals into the profession, it is equally, if not more, critical to retain more of those individuals in the profession for which they have been trained. My findings suggest that policy makers therefore ought to make greater endeavours to focus on retention policy lest they make recruitment policy redundant. It seems to me there is a danger of policy focusing too much on attracting individuals into the profession and not enough on retaining individuals within the profession. Preparing and training people to become teachers, when half will leave within five years, is in my view a poor use of resources. The financial, emotional and time cost of such training would be a much better investment if the teacher attrition statistic were not so high.

My research shows that it is important for researchers to continue to develop and make use of teachers’ life histories/narratives, in order that they more comprehensively appreciate individuals’ journeys to ‘becoming’ an urban science teacher; similarly, to understand the journey of sustaining the role and career decisions made while in post. Through a life-history lens, researchers might also focus on the multifaceted nature of individuals’ identities. More needs to be understood about the various identity elements and how they ebb and flow in and out of dominance. These elements include urban and science identities, in addition to the professional, situated and personal dimensions of identity.

Teacher educators, who in many cases are also the researchers mentioned above, might also make functional use of a life-history approach. At entry-level interview, applicants’ motivations and expectations could be discussed. This would enable admission tutors to make pre-course recommendations, such as specific school experience, to make ITE candidates more ‘course ready’. In addition, early in the ITE course, beginning teachers could be encouraged to write a reflective piece on their own educational experience,

which could, in turn, enable more bespoke support for student teachers by their tutors. For example, the student journey could be used to select placement schools, identify teachers they might work with or year groups/sets they might be timetabled to teach. Such bespoke placements would undoubtedly be difficult to set up, but raising awareness of ITE students' experiences/needs might well contribute to an increased sense of preparedness for 'becoming' an urban science teacher.

In my current higher education institution (HEI) we do ask students to write a short essay of this nature, but I have become aware, through my research, of the untapped power the piece might well possess. In future, I hope to raise the profile of the task and share with colleagues the potential power we might harness, which may well better prepare our students to be urban science teachers and therefore improve retention.

Taking narrative use one step further, I would also suggest student teachers could keep a reflective journal throughout their training/preparatory course. The journals could be open or closed; either way, it might prove to be a useful tool to facilitate discussion between students, tutors and school mentors, possibly improving retention on the course and in post after course completion. Within my HEI, language PGCE students are already encouraged to keep a journal, and the tutors are keen to develop the practice.

I am conscious that the study participant teachers did not make good use of the diaries I provided; therefore, I suggest if this practice were to be adopted, students need to be well prepared to make effective use of this reflective tool. Introduction to reflective journals might include both a purpose and possible content. This might include sharing with students the literature on life histories and identity theory.

My findings about retaining urban science teachers also suggest that there are implications for schools; crucially, schools might focus on teachers' as well as pupils' well-being. My teachers often spoke of being overwhelmed; schools could be much more aware of teacher workloads, recognising signs of stress, but also providing mechanisms to alleviate such stresses. Senior and middle managers might assess much more carefully how they support their staff, as notions of trust and respect can be easily eroded within the busy dynamics of urban schools/science departments.

In addition to paying attention to individual teachers' needs, schools could also work towards fostering a teacher/school community within their staff. Such communities can be promoted through time and space. My findings suggest that many of the teachers lacked

the time within their working week to interact with one another. Those same teachers also did not feel that the school staffroom provided a space for them to engage in such interactions. There was evidence of attempts within the school to foster communities, but there was also evidence of this being ineffective for some of the participant teachers. I believe that teachers need to feel part of a cohesive team where all members of the community/school are working towards the same goals, where there is mutual respect and trust and that all members feel their voice is being heard. I would consider continued effective re-evaluation of the teacher community a key focus for schools in improving individual job satisfaction, which, in turn, I would speculate could increase teacher retention rates.

Finally, the study findings suggest implications for individual teachers. Teachers could use the aforementioned reflective practices to articulate where issues might lie within their urban science teacher lives and how best these can be addressed. Reflecting on one's experiences could enable teachers to acknowledge factors within their role that might contribute to feeling of dissatisfaction. Such recognition could then empower teachers to respond accordingly to these sources of disaffection. Responses might be through making changes to their own expectations and practices but might well also include engaging with others. As discussed above, the school community could well help teachers to better navigate the demands of the urban science teacher role. Individual urban science teachers should not feel isolated, trapped and ultimately ready to leave the position, as was the far too common experience of my participant teachers.

## **8.6 Strengths of the Study**

I feel that the overarching strength of my study is that it is both longitudinal and in-depth. The richness of my understanding of the five participant urban science teachers has been accumulated over four years of study and engagement via extended interviews. Such a methodological approach has afforded me the privilege of fully engaging with the teachers as professionals and as individuals.

I believe this data collection process has allowed me both to avoid one-off, snapshot views and to revisit points arising from previous interviews. Additionally, as the teachers all started in the same school/department, there is connectivity between the data; I became contextually informed and able to compare different views of common situations, as well as being able to track teachers' trajectories over time.

A further strength of the study is the very specific focus on urban science teachers. As has been repeatedly stated, the research in this combined area in the UK is limited. By focusing on science teachers working in an urban setting in England I am helping to fill this research gap and, therefore, adding to the valuable knowledge base regarding how we might retain such teachers in our schools.

### 8.7 Limitations of the Study

As acknowledged in section 4.13, there are both strengths and weaknesses in adopting a case study approach; for instance, while it offers depth and richness of data, a case study approach *de facto* narrows the reach of the study. The study is set in just one department of one school, with only five participant teachers. I cannot claim to be able to generalise my findings for all, most, nor even many teachers, from a sample size of five. However, having presented my findings at national and international conferences, the feedback I receive from many other academics is that their experiences of the locale resonate with my findings. Likewise, my findings echo those of other studies.

To achieve the richness of data – which I described as strength above (section 8.6) – I could only engage with this small sample size. I would love to have had the resources to deal with a larger data set but it was simply not realistic. As a part-time, lone PhD student, working full-time as a lecturer and as a mother of young twins, five participants was my capacity.

It would be easy to claim that the small sample size was the only limitation to my study and this thesis; however, on reflection there are some more fundamental issues I wish to highlight here. Firstly, as I became immersed in the research and readings, the concept of ‘identity’ emerged and began to gain traction. However as I explained in Chapter 3, I am not exploring the participants’ identities, as I originally envisaged; rather, I am using Day et al.’s (2006a) dimensions of identity as a way of understanding teachers’ experiences. My positionality in relation to teacher identity has waxed and waned over time. At the outset, teacher identity was not at the core of my research. However, the identification of the VITAE project and use of its identity dimensions as an analytical tool privileged the position of teacher identity. And yet, through the writing of this thesis, it has become evident to me that I am not looking at teachers’ identities, but using them to explore their experiences. Hence, it could be argued that there is a degree of conceptual ‘slippage’ in my thesis.

Secondly, as my title and research questions suggest, my focus was on urban science teachers, and while I have repeatedly mentioned the dominance of the urban over science, I now also question whether I was researching urban science teachers at all. The more prominent focus actually appears to be on ‘one dysfunctional department’. The science and urban factors might compound and exacerbate, or alleviate, the situation in this department, but the unit of analysis might be better described as the ‘department’ and the ‘teachers’ experiences’ within the department, and how these experiences shape/influence retention or attrition, than individual urban science teachers *per se*.

Thirdly, as I have focused on urban science teachers, these have become key search terms in my literature searches. However, this choice of terminology may well have affected the literature identified and reviewed, and may go some way to explain why so much of the literature is from the US. Throughout this thesis, I have noted the dominance of the US literature; subsequent literature searches will widen further the scope and include words such as ‘department’ within the search terms in order to broaden the conceptual base of the work.

These reflections illustrate the ongoing journey that I travelled in attempting to understand the experiences which lead to teacher retention and/or attrition. I believe my findings have value (see section 8.4 above), and in order to further increase their worth, I suggest various aspects for development below in section 8.8.

### **8.8 How Might This Study Be Developed and Extended in Future?**

There seem to be three main ways to take this work forward; I could remain with the original cohort and continue to track the five individuals; I could increase the number of participants in the study; or, I could change the participant focus.

The first option is the easiest and yet the least attractive. I already know that two of the participant’s, Brianne and Louise, have left the classroom; therefore, I would be continuing with an even smaller sample size than the original study. Also, I believe I have virtually reached data saturation point with the remaining participants; therefore, further study is likely to confirm findings but unlikely to result in new insights.

The second extension proposal would be to increase the number of participants; this could be achieved in a number of ways. Firstly, remaining with a focus on urban science teachers, I could recruit more teachers from the case study department. Secondly, I could



approach further schools within the same local authority. Thirdly, I could increase the reach to other local authorities within London. And finally, I could explore teachers in other English cities, e.g. Manchester, Liverpool or Bristol. Each of these extensions would make the findings progressively more generalisable.

The third development is slightly more radical. Given that one of my findings is concerned with the relative importance of science versus urban aspects within the urban science teacher role, I am intrigued to know whether this same experience is true of other subject teachers in urban schools. I think it would be fascinating to focus on other subject teachers. Each subject will have its own set of unique issues, which I am currently not fully informed about. However, it is my hypothesis that the teachers' subject identity will play a supporting role to their lead urban identity role.

## **8.9 Final Thoughts**

It seems fitting and fair to close to this thesis with the teachers' voices, given my commitment to foregrounding teachers' voices, although selecting one definitive quote is easier said than done. And so, as a final thought to reflect the realities of urban science teaching in England, I offer the words of Jane in her first interview and Bob in his last interview:

'This was not what I trained for' (Jane 1); 'Be prepared for some sodding hard work' (Bob 5).

## Appendices

### Appendix A: Round 2 Semi-Structured Interview Schedule

Thank you for agreeing to continue to be involved with the project, the first round of data collection was really fascinating, leading me to come back and find out more from you, this interview should take about an hour, thanks for your time.

Recap consent, confidentiality and anonymity

1. Life history/biography  
Can you tell me a bit about yourself and how you came to teach here?  
*Probe back through education and career to date, choices made along the way*  
Did you always want to become a teacher?
2. Do you enjoy your job?  
*Probe: reasons why/not*  
*Prompts: colleagues? Pupils? Parents?*
3. How would you describe the science department here?
4. Do you feel happy with your current work-life balance?  
*Probe reasons why/not*
5. Looking ahead, where do you see your career going?  
*Probe reasons; any barriers?*
6. There is a lot of policy concern over the recruitment and retention of science teachers, particularly those in urban departments – what are your views on this?  
*Probes: Is there a ‘crisis’ or not? Why do people leave/ not come into the profession? What’s distinctive, if anything, about urban schools? Is there an issue here with people leaving – and views on reasons?*
7. How would you describe your own position in relation to these issues?  
*Probe own reasons for staying/going, what think will happen in future and why*
8. Is there anything that you think the government or school might do to improve the situation for science teachers in urban schools?
9. Is there anything that I haven’t covered that you think it would be useful for me to think about or that you think it might be useful to ask other people that I’m interviewing?
10. Are you happy for me to remain in touch with you and to continue to be involved in the project (*just explain what this might mean in practice*)?

**Appendix B: Round 3 Interview Prompts**

1. Are you happy to remain a participant?
2. Best contact route, mobile number?
3. How often could you talk with me?
4. So, how has the year been, colleagues leaving and coming/change in leadership/HoD?
5. Have you thought about moving on?
6. What makes you stay?

## Appendix C: Round 1 Interview Summary

FMSS

### **Louise –**

Starts with: it is a challenge  
Talks mostly about pupils and not herself  
Broadly speaking positive: I like the colour I like the kids  
Things vary for school to school  
Needed lots of prompting, 5 mins. Hard for Louise.

### **John –**

Starts with: it is quite tough, and quite a lot of unfocussed  
Talks about consistency of staying in post while, I really like it now  
Doesn't really seem to process the initial question, therefore needs prompting  
Thinks schools/kids very different.  
Keen to talk longer than 5 mins, still quite unfocused  
Experience is key, PGCE quite controlled, NQT comes as quite a shock, more real immersion in PGCE, more emotional support needed in NQT year.

### **Jane –**

Starts with a laugh and 'oh God'  
Urban more relevant than science  
Talks about kids first, behaviour and safety  
As HoD conscience of other areas, staff turnover, supporting staff, communication;  
HoD role consumes her time  
Can be rewarding, but you can forget that in the daily grind.  
No time to reflection, gives a warped image.  
Pressure from various places.  
Easily talks for the five minutes and more.  
'This is not what I was trained for'  
Opportunity for learning in other setting, places not ecology.  
Flexibility is key, how do you teach that?

### **Bob –**

Starts with a smirk.  
Initial focus on pupils: 'this place is busy, this place is mad'  
Organisation is key, how do you teach that?  
Very positive tone to outlook  
Talks fairly freely for the five minutes  
Believes ecology difficult in city.

### **Brianne –**

Starts with: 'hard, a lot of work'  
Talks of conflict between pupils and parents, does not focus on role of self.  
Has a real commitment to the urban, a challenge but a good challenge, need to be 101 different things/roles, easily filled the five minutes but not necessarily the most focused response.  
Comments on disjoint between teachers (pupil needs) and Learning Trust/government policy  
New policy every two weeks

Also support of SLT not good

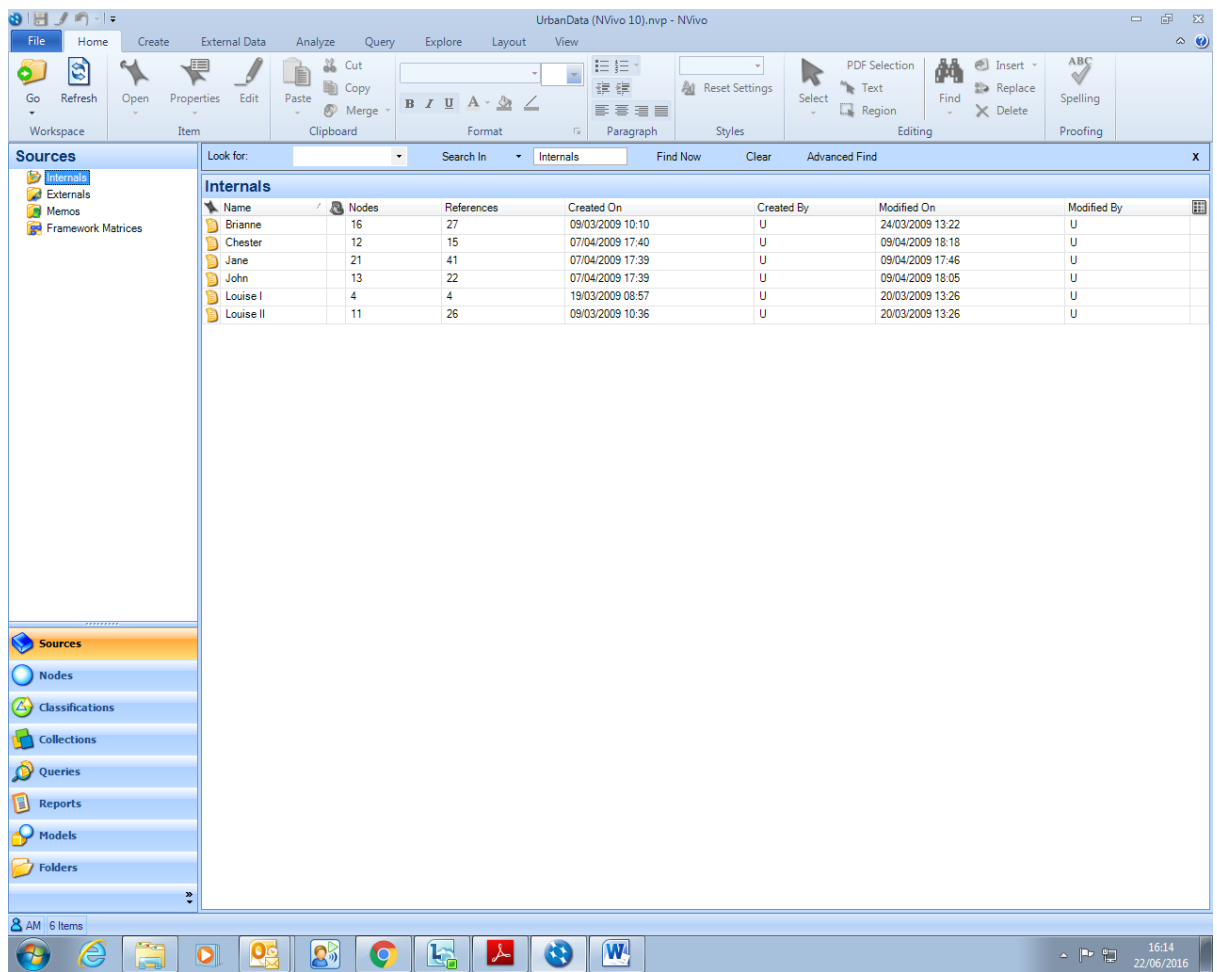
Theme of response is conflict, and several mentions of the ivory towers

Despite saying can't spare the time (5 mins.), every time given the opportunity to stop talking she carries on, 14 mins. in total

Shares her 'outness'

Believes equal opportunity training needed.

## Appendix D: Nvivo Example Data



The screenshot displays the NVivo 10 software interface. The top menu bar includes File, Home, Create, External Data, Analyze, Query, Explore, Layout, and View. Below the menu is a ribbon with various tool groups: Workspace, Item, Clipboard, Format, Paragraph, Styles, Editing, and Proofing. The main workspace is divided into a left sidebar and a central area. The sidebar contains a 'Sources' section with icons for Internals, Externals, Memos, and Framework Matrices. Below this is a list of project components: Sources, Nodes, Classifications, Collections, Queries, Reports, Models, and Folders. The central area shows a table titled 'Internals' with the following data:

Name	Nodes	References	Created On	Created By	Modified On	Modified By
Brianne	16	27	09/03/2009 10:10	U	24/03/2009 13:22	U
Chester	12	15	07/04/2009 17:40	U	09/04/2009 18:18	U
Jane	21	41	07/04/2009 17:39	U	09/04/2009 17:46	U
John	13	22	07/04/2009 17:39	U	09/04/2009 18:05	U
Louise I	4	4	19/03/2009 08:57	U	20/03/2009 13:26	U
Louise II	11	26	09/03/2009 10:36	U	20/03/2009 13:26	U

The bottom status bar shows 'AM 6 Items' and the system clock indicates 16:14 on 22/06/2016.

UrbanData (NVivo 10).nvp - NVivo

File Home Create External Data Analyze Query Explore Layout View

Go Refresh Open Properties Edit Paste Copy Cut Merge Format Paragraph Styles Editing Proofing

Workspace Item Clipboard

PDF Selection Text Region Find Replace Spelling

Insert Delete

Reset Settings

Look for: Search In Free Nodes Find Now Clear Advanced Find

**Nodes**

Nodes Cases Tree Nodes Tree Nodes Relationships Node Matrices

**Free Nodes**

Name	Sources	References	Created On	Created By	Modified On	Modified By
1st response	6	6	09/03/2009 10:13	U	09/04/2009 18:07	U
Bureaucracy	2	6	24/03/2009 13:13	U	09/04/2009 17:44	U
Clarification	3	4	20/03/2009 11:49	U	24/03/2009 13:01	U
Communication	1	2	09/04/2009 17:24	U	09/04/2009 17:24	U
Curriculum	2	3	09/04/2009 17:57	U	09/04/2009 18:10	U
Enthusiasm for science	2	5	09/04/2009 18:02	U	09/04/2009 18:17	U
Equal opportunities	2	2	24/03/2009 13:21	U	09/04/2009 17:36	U
Expectations	4	6	20/03/2009 13:10	U	09/04/2009 18:16	U
FMS question	6	6	20/03/2009 11:49	U	09/04/2009 18:07	U
Interruption	2	2	20/03/2009 11:50	U	24/03/2009 13:00	U
Management-Leadership	1	4	09/04/2009 17:31	U	09/04/2009 17:35	U
Outside the classroom	2	3	09/04/2009 17:44	U	09/04/2009 18:17	U
Parents	2	4	24/03/2009 13:00	U	09/04/2009 17:26	U
Pressure	1	2	09/04/2009 17:29	U	09/04/2009 17:30	U
Pupil achievement	1	1	20/03/2009 13:25	U	20/03/2009 13:25	U
Pupil background	5	17	20/03/2009 13:09	U	09/04/2009 18:18	U
Pupil behaviour	3	6	09/04/2009 17:17	U	09/04/2009 18:12	U
Pupil ethnicity	3	3	20/03/2009 13:26	U	09/04/2009 17:36	U
Pupil range	4	10	20/03/2009 13:08	U	09/04/2009 17:58	U
Pupils	2	3	20/03/2009 13:04	U	24/03/2009 13:07	U
Religion	1	1	09/04/2009 18:12	U	09/04/2009 18:12	U
Rewarding	3	4	09/04/2009 17:27	U	09/04/2009 18:15	U
Safety	2	3	24/03/2009 13:17	U	09/04/2009 17:19	U
School ethos	3	6	20/03/2009 13:19	U	09/04/2009 18:00	U
School specialism	1	1	24/03/2009 12:59	U	24/03/2009 12:59	U
School support for teachers	3	6	24/03/2009 13:16	U	09/04/2009 18:05	U
Staff turnover	2	2	09/04/2009 17:21	U	09/04/2009 18:03	U
Teacher Characteristics	4	6	20/03/2009 13:16	U	09/04/2009 18:13	U
Teacher perception	1	5	09/04/2009 17:55	U	09/04/2009 18:03	U
Time	2	4	09/04/2009 17:27	U	09/04/2009 18:12	U
Urban over science	1	2	09/04/2009 17:42	U	09/04/2009 17:46	U

AM 31 Items

UrbanData (NVivo 10).nvp - NVivo

File Home Create External Data Analyze Query Explore Layout View

Navigation View Find Quick Coding Dock All Undock All Close All Docked Bookmarks Close Window List View Coding Highlight Annotations See Also Links Relationships Links Framework Matrix Classification Report Previous Next Color Scheme Visualization

**Sources**

Internals Externals Memos Framework Matrices

**Internals**

Name	Nodes	References	Created On	Created By	Modified On	Modified By
Brianne	16	27	09/03/2009 10:10	U	24/03/2009 13:22	U
Chester	12	15	07/04/2009 17:40	U	09/04/2009 18:18	U
Jane	21	41	07/04/2009 17:39	U	09/04/2009 17:46	U
John	13	22	07/04/2009 17:39	U	09/04/2009 18:05	U

Brianne

0011 - SN - Brianne

I: Ok so what I wanted to ask you is can you explain to me what you feel being a science teacher in an urban school means to you, what experiences you have if you were told to say what is it like to be an urban science teacher, what would you say?

R: It's hard. (laughs) A lot of work, there is a lot of work actually. Its a lot, particularly in this school because this school is media arts school so therefore the kids just, their interests lie in media and art and that kind of thing, you know, traditionally that's what the schools been so therefore, it's difficult for us to promote, you know everyday is trying to promote, yeah we want you to do this as well, and other schools we have worked in are really quite hard as well, because you are fighting that a tradition of parents who say, you must do science to get a good job, and kids, young people, young people, they actually don't want to do what they parents tell them to do so, so there fore are always in conflict over that and so.

R: one second

tape paused for an interruption

R: sorry

I: it's ok,

R: erm. i don't know, ask me again

Click to edit

Coding Density

1st response

Clarification

Interruption

Parents

Pupil ethnicity

Teacher Characteristics

School support for teachers

FMS question

Equal opportunities

Bureaucracy

Pupil range

Pupil background

School ethos

Pupils

Slavery

In

Nodes

Code At

6 Items Nodes: 16 References: 27 Read-Only Line: 164 Column: 0

100%

16:15 22/06/2016

The screenshot displays the NVivo 10 software interface. The title bar indicates the project is 'UrbanData (NVivo 10).nvp - NVivo'. The menu bar includes File, Home, Create, External Data, Analyze, Query, Explore, Layout, and View. The toolbar contains various icons for navigation, editing, and analysis. The left-hand pane shows the 'Sources' list with 'Internals', 'Externals', 'Memos', and 'Framework Matrices'. The central pane displays a table of 'Internals' with columns for Name, Nodes, References, Created On, Created By, Modified On, and Modified By. Below the table, there is a text area showing interview transcripts with several paragraphs. The right-hand pane shows a list of codes, including 'Rural background', 'Equal opportunities', 'Rural ethnicity', 'Rural range', 'Pressure', 'Outside the classroom', 'Expectations', 'Urban over science', 'Management leadership', 'Bureaucracy', 'School support for teachers', 'Coding Density', 'Rural background', 'Equal opportunities', 'Rural ethnicity', and 'Rural range'. The status bar at the bottom shows '6 Items', 'Nodes: 21', 'References: 41', 'Read-Only', 'Line: 142', 'Column: 42', and the date '22/06/2016'.

Name	Nodes	References	Created On	Created By	Modified On	Modified By
Brianne	16	27	09/03/2009 10:10	U	24/03/2009 13:22	U
Chester	12	15	07/04/2009 17:40	U	09/04/2009 18:18	U
Jane	21	41	07/04/2009 17:39	U	09/04/2009 17:46	U
John	13	22	07/04/2009 17:39	U	09/04/2009 18:05	U
Louise	4	4	19/03/2009 08:57	U	20/03/2009 13:26	U

Click to edit

R: I think for example, I think a lot of it comes from senior management, I think a lot of it comes from the government. If you look at GCSE's results, getting your level 5 to five C's, that kind of stuff, it also comes from the kids, it also comes from curriculum, and people just get fed up....because there is a lot of pressure and people put a lot of pressure on themselves because we know we got a lot of kids who come from slightly poor backgrounds, also comes from direct managers, I know one woman left because she was so sick and tired of our head of department before because she wasn't supporting her and she felt really unsupportive and she wasn't happy.

I: You are talking about the government putting pressures on schools, what advice would you give the government in terms of training people, preparing people to work in urban science schools, particularly as urban science teachers?

I: I think that there should be more focus on behaviour. There should be specific training on girls and boys, there should be specific training on teaching students from ethnic minorities because I think those children need to be taught in different ways, I don't think we necessarily know how unless we actually go for a process. And sometimes it can just really drain you and sometimes it is really too late where as you would be a bit more prepared for that. It also needs to be more flexible somehow. I don't know how you train someone to be flexible because the curriculum does change. I have seen a few changes since I have been teaching and does add extra pressure on you.

I: You have talked for you five minutes and more, is there anything else that you would want to share in terms of the role of being an urban science teacher or urban science manager?

R: I think that there should be more focus on behaviour. There should be specific training on girls and boys, there should be specific training on teaching students from ethnic minorities because I think those children need to be taught in different ways, I don't think we necessarily know how unless we actually go for a process. And sometimes it can just really drain you and sometimes it is really too late where as you would be a bit more prepared for that. It also needs to be more flexible somehow. I don't know how you train someone to be flexible because the curriculum does change. I have seen a few changes since I have been teaching and does add extra pressure on you.



The screenshot displays the NVivo 10 software interface. The top menu bar includes File, Home, Create, External Data, Analyze, Query, Explore, Layout, and View. The left sidebar shows a tree view of nodes, with 'Free Nodes' selected. The main window is divided into two panes. The top pane, titled 'Free Nodes', contains a table with columns: Name, Sources, References, Created On, Created By, Modified On, and Modified By. The bottom pane shows a detailed view of a specific node, 'Pupil background', with a text excerpt and a reference list.

Name	Sources	References	Created On	Created By	Modified On	Modified By
Pupils	2	3	20/03/2009 13:04	U	24/03/2009 13:07	U
Religion	1	1	09/04/2009 18:12	U	09/04/2009 18:12	U
Rewarding	3	4	09/04/2009 17:27	U	09/04/2009 18:15	U
Safety	2	3	24/03/2009 13:17	U	09/04/2009 17:19	U
School ethos	3	6	20/03/2009 13:19	U	09/04/2009 18:00	U
School specialism	1	1	24/03/2009 12:59	U	24/03/2009 12:59	U
School support for teachers	3	6	24/03/2009 13:16	U	09/04/2009 18:05	U
Staff turnover	2	2	09/04/2009 17:21	U	09/04/2009 18:03	U

**Free Nodes**

**Internals\Brienne> - \$ 1 reference coded [2.29% Coverage]**

**Reference 1 - 2.29% Coverage**

It is not, you have to be really flexible and you have to be really a hundred one things. Its not about just teaching science, its is about being a mediator, and being a councillor, and being a bouncer sometimes and stuff like that.

**Internals\Chester> - \$ 1 reference coded [12.93% Coverage]**

**Reference 1 - 12.93% Coverage**

I think [pause] the people who struggle most, are the people who are disorganise it's a really prosaic this to say, but people who plan and who plan well stick to schedules and do things in a methodical way, succeed in a far better way than people who don't. I mean I'm disorganised and I struggle and i'm five into practice, Louise is in her first year as is Izna she ridiculously organised and therefore because everything is always in order, they know what they are doing, they can deal with everything else ..so it a really boring thing to say but if I look at who succeeds and who doesn't, who struggles and who doesn't, that's the biggest thing of actually knowing of what you're doing. I don't know how you teach that. I don't know how you teach people to be organised or to sort themselves out to that degree but yes I would say that.

**Internals\Jane> - \$ 2 references coded [1.98% Coverage]**

**Reference 1 - 0.32% Coverage**

you've got to really want to teach

## Appendix E: Scans of Annotated Transcripts

0012 - SH - Jane 1

I: So what I want to talk about is what you think working as a science teacher urban science department means to you or the experiences means to you... you will have encapsulate what does it mean to be an urban science teacher or in your case an urban science manager?

R: Okay, well there are two parts to this, isn't there. Well, being an urban science teacher well being any kind of urban teacher is very different from being a teacher who's non urban because you've got to really want to teach because if you do not want to teach, the kids will know, that you are not really interested in them and it does have an effect on their behaviour so if you have a bad day, 'I can't be bothered, I'm tired, whatever' they will play up because they can sense it. When you think about what's on the news recently, like I was watching this knife business last night, there was one of our kids on it whatever you want to call it and it amazes you how many issues these kids have outside of the school so in terms of science, I don't know. if there is anything specific of being an urban science teacher apart from if you use scalpels you have to count them in, anything, any sharp object you have to count them in because some kid might walk off with one which is probably the biggest issue. I think in terms of behaviour, you have to think about safety an awful lot because a lot of the kids can sort of misbehave. A lot of our kids are from relatively poor backgrounds and don't necessarily have the basic manners that you might expect from somebody therefore safety can be a real issue if you think about it. You try to get them stop talking, you really have to bang it into them and instil it into them to kind of follow these certain rules and protocols because some of them have never been taught manners. And they struggle with it really. So much. Urban manager, an urban science teacher, urban science department short subjects, massive turn over staff, when I came here in September 2005, I was one of seventy teachers out of the about ten in the department, this department was mad. There was only about three people who be consistently here for and even those people have only been here for two to three years maximum so retaining staff is a big issue, behaviour of kids is a big issue, I would say. As a manager, you are wedged between two situations because there are people who look up to you for support and you try to give them support but then if the management above you were to exclude every child they were to exclude then there would be massive inclusion issues and there would be penalties all of the rest of this and they tend not to exclude so its like a fight all the time. you have to fight for your right and everybody else's right to be treated with respect and communication in this school is quite difficult sometimes. People are running around busy all the time and communication does lack and that can seriously impact like I know shortly we had a lesson where a kid came off from several weeks from being ill, Izna wasn't aware of her, she needed to integrate her back into here class and she went and said, why wasn't I aware so I could prepare myself for working her back into the class and this big issue with class and staff and it is very stressful I think. Its very stressful as a teacher, there is a lot grieving and you do come across some few unfortunate parents who mainly don't care, and some of them you cant get hold of when there is a behaviour problem and then you have to add

high  
behavi

Being an urban teacher is different

staff

turnover

turnover

parents

80b2

It came to see you sat year and we had a five minute chat, I didn't get a chance to observe you but generally what I saw was that the minute was very interesting but it didn't really give me a lot of depth, the first I went to find out about was a lot of the things that interest me in people talked about on the day but because I was trying to observe, I wasn't really taking down in detail, because obviously it would be a bit weird to write down everything you say for a day, so I realised with the bit of information that I have, I tried to write it down, summarising what I saw, I wanted to explore a bit more about where you've come from to get to this point and where you see yourself going, so I did that, just to let back where the decisions came, what kind of the history, or what made you go into teaching therefore what made you decide to come teach here?

It Okay, what made me decide teaching was I thought it is something I could do, I thought it would be varied, I've gotten to 25 year old, doing odd jobs here and there, working for... Waterston for five years, bored out of my brain thinking about when would I be going, what kind of job would be varied enough, and interesting enough, to actually keep going, so I thought to try teaching, I was a bit nervous at the time, and I was a bit worried about not being able to do it, so she said, just do the PGCE, you don't have to complete the PGCE, so it's... I don't know if I could do it pretty well, so I thought, yeah let's give it a go, and then...

It What was your degree in?  
 - It Environmental Biology, I don't really which doesn't have a huge amount of use in the wider world, so that was that, so only taught...

It So was this your first after PGCE?

It I mean I really didn't know what I was looking for in a school particularly, people valued their job and it was if you enjoy your job, wherever it is, it just seems like a good school in terms of having a really happy different, there is no uniform, I like the things the head master is saying, things I don't think I'd compare them to, it seems an awful quiet and quiet, it's a kind of looking for job.

It Was that your first interview?

It Yeah, and to be honest, this year or so, I was, I didn't get very much good support, in the first year, I was left, took another job, I was had a key stage 2, I felt, I was, I was returning there (2.58) and so we had to do that year as well, the person who went off as head of department didn't really want to do it, and so I got very really support in PGCE so my behaviour, managing was applying, I really didn't enjoy the job in the first year at all, I had 95% of my time here. And luckily I didn't want to leave after that year because the second year was slightly better.

It Why didn't you leave after the first year?

It Because I didn't wanted to leave that I have done really crap.

It Stick it out and see if I can do it better?

It Yeah, because I don't think that was an accurate judgment that what I really like, having a sort of really had a bad year... and then start to get better and better, second year was better, this year got really good and that's when I went for the science department job, I was going to but I

I thought the person had done such a bad job, I thought, I would probably do it better. And since then I've had been kind of regular stream of people leaving which has made it quite difficult.

It So not you?

It No.

It What has made you not leave?

It I feel of history, I don't believe necessary it is going to be better, better anywhere else. There are some things I love the staff here, and I like most of the children, I find it incredibly difficult. When I look around for job aspects, I see so few things, I'm teaching that makes me go... ohh... now is away. I find of key stage 4, hard of department, and I read it and go well, I guess look at the schools, who know what it's going to be like, I think, I know what the job is, and so I think might as well do it here, so that's the problem, the idea leaving, leading to get to leave outside teaching, which I thought a lot about, I just really, well when I look at my job, that looks like a pretty interesting job, and then look at the job and what I'm doing, I mean that's the problem with teaching, not just the problem, I think, that you are very well paid.

It That is interesting to hear you say that, and so you have not thought of looking at other schools and teaching.

It Oh I have not got looking at other schools I am so busy, I just can't find the time to think about it, what is not good about thinking about things.

It But you are not unhappy enough here that it's worth looking now that you are settled?

It I have not for a few jobs, that's a bit, I've applied for one job, I've thought about applying for a few number of jobs, I've now applied for one job this year which didn't... I don't even think I have to look around the school, I wanted to step up the ladder but it's quite specific that I am looking for.

It And you said that the things that kind of drive you in is creativity?

It Yeah

It And you feel that all that is still here

It No

It So the things that drive you in have gone, what is it that took you?

It What certainly holds me here...

It What is it that you enjoy that makes you stay...

It That's a really difficult question to answer, I don't know... I really don't know...

It So it's not an active choice to stay, it's just a convenience...

It Yeah, it's incredibly passive, convenient thing to say.

It It has someone offered you something better, you would have gone...



Transcription Ref: 4.120

Okay, you'll remember that I, um, I just record them so that they're, it's easier than writing it all down.

Okay

Um, so, um, it's the end of the summer term...

Yeah, thank goodness

And, [laughs], what's, what's happening, where are you at, what are you doing?

Where am I, sir? [laughs]

What's...?

[There's a good story? 00:25]

Where, where, where do you, well, just 'cause you said, did you say that you, you were leaving at the end of the term?

Yeah, basically I am leaving basically, um, 'cause I've been ill over, on and off from the last few years, you know, on and off...

Right and this is the asthma?

Err, it's partly asthma, but I've had a really severe chest infection...

Right.

Which has affected the asthma as well...

Right.

And basically, I've had to go through like stage two sickness, um, for it's year...

Right, what does that mean?

Err, meaning, that basically, um, they, they do it when it's considered that, um, my absence is now affecting my ability to do the job...

Right, right.

Basically it comes to that, yeah.

Right, okay and would you, do you agree with that?

Err, yeah, I suppose in a way, yes, that's right...

Mm-hmm.

Transcribed by Dulce Maurice Audio Transcription Services

(1)

Transcription Ref: 4.121

You know, I do agree, you know, um...

How long, how, how much sickness have you had?

Um, well, it's about 25 days a year...

Right.

Something like that, when has gone right up, compared to when I was, err, never, not leaving, I, um, before I, 'cause I started teaching five years ago, I used to have two days of sickness...

Right.

A year...

Right.

And I used to work outside a bit, um, so I think I've, so partly it was picking up bags and things, but it's just especially the last two years, when I had...

Right.

Building works on site...

Right.

And I think that's, the, that's, some of that has aggravated my asthma...

Right.

But I've also had, at the same time, a really severe infection...

Right.

Um...

Chest infection?

Yeah, chest infection, which they, I've been given antibiotics and then they had not worked...

Right.

And they kept, the infection kept coming back.

Right.

In actual fact, you can see me now, because I'd finally got some that actually worked...

Right.

Transcribed by Dulce Maurice Audio Transcription Services

(2)

## **Appendix F: List of Round 4 Themes**

### **Other**

Like talking  
Ways of talking  
First response speaks volumes  
Honesty  
Jane's marathon analogy

### **Personal**

1. Paternity leave
2. Persona risk taker/laid-back/pride
3. Signs of moving – out of steam
4. Stagnation – lazy – familiarity
5. Convenience
6. Carry through
7. Family gender balance of teachers with children, Math, Eng and Sci
8. Work-life balance
9. Illness/stress
10. Dismissal/cryptic
11. Initial motivations
12. Expectations/realistic/romantic/ mismatch
13. Downsizing
14. Burnout
15. Resilience
16. Professional development
17. Money/mortgage

### **Situated**

1. Support +ve/-ve
2. Team work – department expectations, collegial support
3. Turnover
4. HoD – Manager over science – being a manager
5. HoD staying
6. Subject specialism +ve Bob, -ve John, Jane different and extra
7. Monitoring
8. Accountability
9. Trust/valued/ status/respect/pecking order/rewards (asparagus)
10. Ethos (academy style)/morale
11. Managing behaviour
12. Urban over science
13. Science over children cf. teaching/communication
14. Finances
15. Class sizes
16. Pupils +ve
17. Work load
18. Headteacher/leadership

19. Teaching A-level
20. Practical subject – H and S
21. Department dynamics/relationships/consistency

**Professional**

1. Ofsted
2. Raised entry requirement for teaching

## Appendix G: Ungrouped and Grouped Subthemes for the Personal Dimension

### Personal dimension ungrouped subthemes

- 1. Adaptable/flexible**
2. Admitting to struggling
- 3. Ask for support/help – Reach out to others – Isolated**
- 4. Being creative**
- 5. Burnout**
6. Carry through
7. Catalyst for change
8. Chilled/laid-back
9. Commitment
10. Complacent
- 11. Convenience**
12. Dismissal/cryptic
- 13. Downsizing/negotiation** Role change/downsize work at home/negotiation
14. Enjoyment
- 15. Expectations/realistic/romantic/mismatch**
- 16. Family – work-life balance** – gender balance of teachers with children, Math, Eng and Sci
17. Good enough
18. Hindsight
- 19. Illness/stress**
- 20. Initial motivations – Motivations/reasons for entering the profession.**
21. Juggling/spinning plates
- 22. Good money/mortgage**
23. Out of touch/ill-informed/info overload
- 24. Paternity/maternity leave**
- 25. Persona risk taker/laid-back/pride**
- 26. Pragmatics**
- 27. Pressure on self**
28. Professional development
29. Realistic
- 30. Resilience**
31. Rewarding
- 32. School type/matching – School–teacher mismatch**
33. Self reflection
- 34. Showing signs of moving – out of steam**
35. Sixth-form teaching
- 36. Stagnation** – lazy – familiarity
- 37. Stress/ill/mental health**
38. Tired
- 39. Work-life balance**

### Personal dimensions grouped subthemes

- I. Personal characteristics
  - 1. Adaptable/flexible**
  - 2. Being creative**
  3. Carry through

4. Chilled/laid-back
5. **Risk taker/laid-back/pride**
6. **Resilience**
7. Rewarding
8. Self reflection

## II. Help

1. Admitting to struggling
2. **Ask for support/help – Reach out to others** – Isolated  
**Downsizing/negotiation** Role change/downsize work at  
home/negotiation/sixth-form teaching
3. Professional development

## III. Motivations

1. Commitment
2. **Expectations/realistic/romantic/mismatch**
3. **Initial motivations – Motivations/reasons for entering the profession**
4. Realistic

## IV. Pragmatics

1. Complacent
2. **Convenience**
3. Good enough
4. **Good money/mortgage**
5. **School type/matching – School–teacher mismatch**
6. **Stagnation** – lazy – familiarity

## V. Work-life balance

1. **Family – work-life balance**
2. **Paternity/maternity leave**
3. Gender balance of teachers with children, Math, Eng and Sci
4. Juggling/spinning plates

## VI. Going well

1. Enjoyment

## VII. Not going so well

1. **Showing signs of moving – out of steam**
2. **Burnout**
3. Out of touch/ill-informed/info overload
4. **Stress/ill/mental health**
5. Tired
6. **Pressure on self**

## VIII. Other

1. Catalyst for change
2. Dismissal/cryptic
3. Hindsight



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